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TEACHERS' PENSION SYSTEMS IN THE UNITED STATES

A Critical and Descriptive Study

BY

PAUL STUDENSKY

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The Institute for Government Research is an association of citizens for coöperating with the public officials in the scientific study of administrative methods with a view to promoting efficiency in government and advancing the science of administration. It aims to bring into existence such information and materials as will aid in the formation of public opinion, and will assist officials, particularly those of the national government, in their efforts to put the public administration upon a more efficient basis.

To this end, it seeks by the thoroughgoing study and examination of the best administrative practice, public and private, American and foreign, to formulate those principles which lie at the basis of all sound administration, and to determine their proper adaptation to the specific needs of our public administration.

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PAUL STUDENSKY.

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EDITORIAL INTRODUCTION

This volume constitutes one of a series of studies in the field of public administration made possible by a generous appropriation for this purpose by the Rockefeller Foundation. With the approval of the committee to which the disposition of this fund was given and under the editorial direction of Dr. F. A. Cleveland, this study was begun, but was later transferred to the Institute for Government Research under whose direction it was completed and by which it is now published.

The Institute, early in 1918, issued a volume by Lewis Meriam, a member of its staff, dealing comprehensively with the Principles Governing the Retirement of Public Employees. That volume, as its title indicates, dealt with all classes of government employees and was a critical and constructive, rather than a descriptive study. The present volume deals with only one class of public employees and is both critical and descripive. It aims to give the provisions that have been, or should be, made with regard to the retirement of a group of public employees which, by its size and special character, makes of this problem one requiring independent consideration.

The importance of this problem of efficient public administration has for years been recognized, and for the solution of it a wide variety of devices have been employed, but only in a few instances have these schemes operated satisfactorily. The extent of the reorganization that must be effected, and its great significance can be appreciated when the fact is noted, that of the nearly one hundred teachers' retirement systems now in operation in the United States, only a few can escape total collapse unless fundamentally altered. Some of these systems include ten, fifteen, or even twenty thousand teachers each. Twenty-two of them are state-wide in their operation. They apply to over three hundred thousand public school teachers, i. e., to nearly one-half of the total number of teachers in the United States and they have liabilities in the neighborhood of half a billion dollars for the discharge of which, in large part, there are no assured assets. Besides the necessity for putting these systems upon an equitable and sound financial basis, there is need for the establishment of retirement allow-

ance systems in those states and localities which as yet have none. At present seventeen states have neither state nor local pension systems for their public school teachers, and in twelve of the remaining states there are only a few local systems. Approximately one-half of all the public school teachers in this country are not covered by any pension provisions.[1]

It need not be pointed out that the making of adequate financial provision for the retirement from service of teachers whose abilities have become impaired by age or otherwise is not simply a matter of equity and humanity and of significance from the standpoint of general social betterment. In several respects it is a question of direct administrative efficiency. For not only do proper retirement provisions make it possible to relieve the working force of relatively incompetent members, but the teaching career is made more attractive and thus draws to its service a better personnel and stimulates its members with a higher esprit de corps.

A soundly constructed teachers' pension system is one that must meet a variety of requirements. Its financial arrangements must be such that permanent solvency is assured; the incidence of its burdens and benefits must be justly apportioned not only as between the different groups of teachers, but as between them and the public, as represented by the government; it must be so organized and administered that the greatest possible efficiency of service on the part of the teaching force will be secured; and, finally, it must make reasonably adequate provision for disabilities to the teachers concerned whether arising from old age, sickness or accident. So far as possible, too, provision should be made for satisfying the equities involved when teachers are dismissed or themselves desire to resign their posts.

The present study, while not a pioneer one in the sense of being the first attempt to make a scientific investigation of teachers' pensions in the United States, is the first comprehensive, critical, and descriptive treatment of the subject.

[1]An investigation made in 1917 showed that there were then ninety-four teachers' retirement systems in operation. These systems covered 332, 554 teachers.

This did not include various mutual benefit associations, such as exist in St. Louis and Washington, D. C., with voluntary memberships and wholly financed by the teachers themselves. This list of ninety-four was made up entirely of schemes which were official and integral parts of the public school systems concerned.

It should be noted, however, that this figure is obtained by including the entire teaching staffs within the jurisdictions concerned. The actual

In 1906, the state of Massachusetts appointed a commission, with Mr. Magnus W. Alexander as chairman, to study the general problem of "old age pensions, annuities and insurance." Incidentally, the commission touched upon the problem of pensions in the public service and published in 1910 a report which stimulated a good deal of sound thought in the country. Beginning in 1910, Mr. Herbert D. Brown prepared a series of reports, all of which have been published by the national government, dealing with the civil service retirement system of Great Britain, New Zealand and New South Wales, Australia, and the problem of establishing a retirement system by the national government for its employees. The New York Bureau of Municipal Research became interested in the pension problem soon after its establishment. It made a thorough actuarial investigation of the New York City Police Pension Fund—the first actuarial investigation of a civil service pension fund in this country—and prepared a report, which resulted in the establishment in New York City of a commission to investigate all the nine pension funds, including the teachers' fund, in operation in New York City and led to similar actuarial investigations of funds in other cities. The sound pension thought which emanated from these three active centers, Washington, New York City and Boston, spread over the entire country and affected the teachers' pension movement.

The first to consider the establishment of a sound pension system for teachers was the state of Massachusetts. The state board of education was directed in 1911 to investigate the establishment of a state-wide retirement system for teachers and to submit its recommendations before January, 1913. The investigation, aided by Mr. C. A. Prosser and Mr. W. I. Hamilton, resulted in the establishment in 1913 of the first scientifically constructed teachers' retirement system in this country.

New York City came next with several attempts to reor-

number of persons covered must have been considerably less since many exercised the right, ordinarily granted at the outset, to decline to be enrolled. Participation of all new appointees being made compulsory, however, the proportion of non-participants has been steadily diminishing. It should further be noted that the figures stated were compiled from the report of the United States Bureau of Education for 1917 and cover only the year 1915-16. Moreover, for some of the localities, the number of teachers was not given in the federal reports and had to be obtained through correspondence with the local pension fund officials.

ganize its insolvent retirement fund for teachers. It finally effected a sound reorganization in 1917. In the meanwhile the Carnegie Foundation for the Advancement of Teaching became convinced of the necessity for a reorganization of its retirement system for college professors. It began a study of the problem in 1912 and since that time has reviewed in its annual reports the pension progress in the country, thus greatly contributing to the scientific consideration of the problem.

The establishment of the sound systems of Massachusetts and New York City gave considerable impetus to the movement of reorganization. Connecticut followed the example of Massachusetts in establishing a similar system for its teachers. The state of Pennsylvana profited from the reorganization experience of Massachusetts and New York City, and established a new system introducing certain novel features and improvements. Illinois and New Jersey have appointed state commissions which are now considering the question of the reorganization of their teachers' retirement systems.

The reports of each of these investigating commissions, and the other publications mentioned, presented mainly a picture of one or another local situation and discussed certain aspects of the problem, but made no attempt to survey the entire field of teachers' pension systems in this country, nor to examine the whole movement and summarize the principles evolved and results accomplished. As the movement progressed the need for such a broad investigation has been felt, and to answer this need the preparation of the present volume was undertaken.

The first step in the investigation was to make a search through the session laws and codes of various states for all the laws which had been enacted with reference to teachers' pensions. Annual school reports of the United States Bureau of Education and of the different states, official documents, educational magazines and other publications, which had appeared on the subject during the last thirty or forty years, were scrutinized, and an exhaustive bibliography was prepared.

At the same time letters were sent to the officials in charge of the different systems, the existence of which was ascertained, requesting copies of financial reports, statistics and

other information necessary for determining their financial operations and present condition. These letters elicited favorable replies and secured considerable and very valuable material.

In the chapters constituting Part I of the volume now published a description of the evolution of teachers' pensions and an analysis of the general problem of providing retirement allowances to teachers is given, together with a discussion of the principles governing the establishment and maintenance of sound systems. In Part II an account is given of the movement in the United States and a descriptive and critical examination made of the history and present condition of the more important systems now in existence. Twenty-four systems were thus selected for detailed study, the main features determining their selection being their age, sources of support and scope of membership. The funds of fifteen of the systems thus selected are in part provided by contributions from the teachers organized under them; four derive their funds wholly from this source; while five of them make no demands upon the purses of the prospective beneficiaries. In the aggregate, it is estimated that the twenty-four systems described affect over three-quarters of all the teachers embraced in the ninety-four pension systems now in operation in the United States.

In general, it may thus be said that the volume, combining as it does a discussion of principles with the description of the experiences of existing systems, should be not only a substantial contribution to the science of administration, but an immediate and practical aid to teachers, school authorities, legislators and all other persons interested in solving the problem of reorganizing their own systems or establishing systems, in case they already have none, upon bases that have been tested by experience and are in accordance with sound social, economic, and financial principles. Furthermore, most of the considerations and principles which apply to the educational services of the state are applicable to the other administrative branches of our federal and state governments. Mr. Studensky's volume, therefore, finds a very proper place in the series of "Studies in Administration" which the Institute for Government Research is publishing.

During the opening months of 1919 while this volume was in press, three states, New Jersey, Ohio and Vermont enacted laws establishing new pension systems on approved principles

These laws have been fully discussed in a concluding chapter which was added to the book while in press, and the laws themselves are reproduced in full in Appendix 3. It was not found practicable, however, to amend the text at every minor point to take account of the establishment of these new systems.

W. F. Willoughby.

PART I

THE PROBLEM OF TEACHERS' PENSIONS

CHAPTER I

THE EVOLUTION OF TEACHERS' PENSIONS IN THE UNITED STATES

While the problem of teachers' pensions[1] may in one sense be regarded as a purely technical one, it is in reality also historical. Only in the light of an understanding of the way in which the problem has assumed its present form, and of the attitude toward it on the part of both teachers and legislators that has resulted, can the technical considerations developed in the subsequent chapters be successfully applied.

The history of the movement for teachers' retirement pensions in this country may be divided into three periods. The first period opened in 1869 with the establishment of teachers' assurance and mutual aid associations. The second period began in 1894 with the securing of retirement legislation, but without due regard to sound principles. The third period is now opening with a movement toward reorganization of existing retirement funds and the establishment of new funds on a sound basis.

The leading rôle in the movement during the first two periods was played by the teachers' associations. The attitude of the government and the public was one of indifference. With the new period, however, the government and the public have begun to take an active part in the teachers' retirement movement, and an intelligent coöperation between them and the teachers is developing.

[1]The term "pension," as applied to amounts paid to employees after retirement from active service, is objected to by some as implying a payment charitable in nature, that is, as a gift for which no full equivalent is returned on the part of the recipient. Therefore, viewing these payments as essentially deferred payments for services actually rendered, we find employed such terms as "retirement allowances," "retirement salaries," "service annuities," or simply "annuities." In this volume, however, the writer has not deemed it necessary to forego the use of the term pensions, although, when used, he does not intend to imply that a charitable element is involved.

Mutual Aid Associations. While sporadic organizations of teachers for social or other special purposes have no doubt existed in this country from early days, no recorded instance of a teachers' mutual aid society is found until 1869. In that year, in a certain large school in New York City, collection lists were several times circulated among the teachers with an appeal to them to contribute towards the payment of funeral expenses of a fellow teacher who had left no funds. It then occurred to Mr. Vanderbilt, a young and active teacher of one of the New York City schools, that instead of soliciting voluntary contributions each time a death occurred, it would be far better to organize an association in which each member would pledge himself to contribute one dollar whenever called upon and would also be assured that a similar benefit would be paid upon his death by a similar assessment upon all other members. He called a meeting of teachers and they established the New York City Teachers' Mutual Life Assurance Association. The significance of the establishment of this association was the fact that besides mere philanthropy it introduced an element of self-protection—the contributor not only helped to defray the expenses of funeral to a fellow teacher but also secured a right to a like benefit for himself. Probably no one at that time thought that the establishment of this modest organization marked the beginning of a great mutual aid movement and later on of a pension movement among teachers.

In Brooklyn, two years later, a similar organization was established. But the example of the teachers of these two cities was followed by the teachers of other cities only slowly. The Jersey City teachers founded an association in the year 1880 and Camden followed in 1885. The provisions of these associations as compiled in 1897 are shown on the following page.[1]

[1]The following data are extracted from a table published in Review of Reviews, June, 1897, p. 711.

Name	Date of Establishment	Membership	Assessments on Call	Annual Dues	Amount of Benefits		Annual Income	Capital
					Sick	Death		
New York City Teachers' Mutual Life Assurance Association	1869	2009	$1	None	None	$500	None	....
Brooklyn Teachers' Life Assurance Association	1871	1557	$0.50	"	"	$300	"	$556
Jersey City Life Assurance Dept. Teachers' Association.........	1880	300	$1	"	"	$300	"	....
Camden Teachers' Insurance Benefit Association...........	1885	120	$1	"	"	$120	"	....

The benefit provided in the association of Camden was too small to cover more than the bare funeral expenses, but in the other associations the benefits provided the dependents with a few hundred dollars above the amount necessary for a modest funeral and might therefore be properly termed life insurance. Viewed as measures of life insurance these associations appear primitive and imperfect. They required no regular annual assessment but assessed their members whenever necessary; they had no capital and they considered capital unnecessary. They did not understand that insurance could be sound only if based on mortality tables, and that the number of deaths among their members would increase in the future and would make the assessments on the younger members too burdensome.

Sick Benefit Associations. Next to the problem of burying the teacher and helping his dependents the problem of the sick teacher and the possibility of offering him at least temporary relief attracted the attention of the leaders of the mutual aid movement. Most of the associations established

after 1885 provided not only death benefits but also sick benefits payable for certain limited periods. The teachers of Detroit established such an association in 1888; those of St. Paul did the same in 1890; the Chicago teachers soon followed in 1891, and were joined by the teachers of Des Moines, Lincoln and Evansville. Meanwhile a still more rapid progress was made in the East, among the teachers of Rochester, Buffalo, Paterson, Hoboken, Trenton, New Bedford, Swarthmore, Scranton, Baltimore, Savannah and others.

In the development of these sick benefit societies, important improvements in the matter of financing the benefits were introduced. Unlike the lump sum death benefits, the sick benefits, which had to be paid day after day to many beneficiaries, could not be financed by means of sporadic assessments and without capital on hand. Regular annual dues were therefore introduced and the attempt made to build up permanent capital funds. Nevertheless, these associations were just as unsound financially as the pure life assurance societies earlier discussed.

The amount of dues and benefits and other information about some of these associations are shown in the table on the page opposite.

Old Age and Disability-Annuity Associations. There were, of course, numerous cases which the life assurance and sick benefit associations could not help; for example, that of a teacher becoming permanently disabled through sickness, or becoming too old to continue teaching. Encouraged by the apparent success of the life assurance and sick benefit funds, the leaders of the teachers decided to take up this difficult problem and to organize associations which would provide these teachers not merely with temporary relief but with a permanent and urgently needed one in the form of annuities payable to the end of their lives.

The teachers of New York City and Brooklyn were the pioneers of this movement. They established their voluntary

Sick Benefit and Life Assurance Associations[1]

Name	Date of Establishment	Membership	Assessments on Call	Annual Dues	Amount of Benefit: Sickness	Amount of Benefit: Funeral	Annual Income	Capital
Cleveland Teachers' Mutual Benefit Association	....	120	$1.00	$3.00	$7.00 weekly	None	$1,800	....
Swarthmore, Pa., Interstate Mutual Relief Association	1891	100	1.10	2.50	25.00 monthly	Maximum $2,500	660	$260
Jersey City Teachers' Club	1893	300	1.00	1.00	3.00 weekly	300	500	$5,000 (partly from a bazaar)
Paterson Teachers' Association	1894	234	None	.50 & 1.00	None	100	....	....
Hoboken Teachers' Mutual Aid Association	1894	165	None	2.00	5.00 weekly	100	576	6,000 (partly from a bazaar)
Trenton Teachers' Club	1895	171	None	1.00	7.00 weekly	None	160	1,000 (partly from a bazaar)
New York City Teachers' Mutual Aid Society	1896	40	None	7.20	Varying	....	....	....
Baltimore City Teachers' Beneficial Association	1897	350	1.10	3.00	.50 to 1.00 per day	350	1,050	500

[1]Extracted from a tabulation in the *Review of Reviews*, June, 1897, p. 711.

annuity associations in the year 1887. From New York this idea was carried to Boston, where it resulted in the establishment of a similar association two years later. Philadelphia followed in 1890; Cincinnati in 1891; Massachusetts, Washington, D. C., Connecticut, Baltimore and other cities and states during the next few years.

The establishment of these and other associations of the same type met a great need among teachers. For the first time in the history of the educational system in this country, there was brought before the teachers and before the public the problem of the retirement of the aged and disabled teacher.

The provisions of most of these funds were patterned after the provisions of the New York fund. In most of them annuities were fixed at $600, the exceptions being the associations of Cincinnati and Omaha, with annuities of $500 and $400 respectively, and the association of Brooklyn which provided annuities of one-half the fixed salary of the retiring teacher. Annuities were to be paid to those members who retired from the teaching service under either of the following conditions: (1) completion of a certain length of service, which varied from 30 to 40 years in different systems, frequently with a lower requirement by five years for women than for men; (2) a proof of disability, irrespective of the length of service. The money necessary for the payment of these benefits was to be provided by means of annual dues from the members of the association at the rate of 1 per cent of their salary and was to be supplemented by donations and voluntary contributions from the public.

Several of the new associations combined life insurance, sick benefits and annuities. The Philadelphia fund, established in 1890, and the Washington, D. C. fund, established in 1894, were of this type. The constitution of the Philadelphia fund stated that:

> The object of this association shall be to provide for and to furnish pecuniary aid from time to time to such of its

VOLUNTARY ANNUITY AND AID ASSOCIATIONS ACCORDING TO AN INQUIRY MADE IN 1897[1]

NAME	Date of Establishment	Membership	Annual Contributions	Maximum Annuity	BENEFITS PAID UPON				Balance in the Fund
					Years of Service	Disability	Sickness	Death	
New York City Teachers' Mutual Benefit Association	1887	2194	1 per cent salary.....	$600	M. 40; Fem. 35.	After 5 years' membership	None	......	$140,000, of which $76,000 was secured from donations, bazaars, etc.
Brooklyn Teachers' Aid Association	1887	700	½ per cent and 1 per cent salary	⅓ salary	M. 35; Fem. 30	....None......	$5 or $10 wkly	None	$57,000, of which $30,000 was secured from a bazaar.
Boston Teachers' Mutual Benefit Association	1889	942	1 per cent salary maximum $5 a year	$600	M. 40; Fem. 35..	After 2 years .	None	None	$77,000, of which $64,000 was secured from donations and bazaar.
Philadelphia Teachers' Annuity and Aid Association	1890	900	2 per cent salary... .	$600	M. 40; Fem. 35..	After 3 years .	Yes	100	$119,000, of which $64,000 was secured from donations and bazaar.
Cincinnati Teachers' Aid and Annuity Association	1891	350	$10...............	$500	M. 35; Fem. 30..	After 5 years..	None	100	$46,000, of which $20,000 was secured from donations and bazaar.
Massachusetts Teachers' Annuity Guild	1893	1300	1 per cent salary ..	$600	35	After 3 years .	None	None	$48,000, of which $9,000 was secured from donations.
Washington, D.C., Teachers' Annuity and Aid Association	1894	351	Class A—1½ per cent salary Class B—$5	......	....	....	......	.. ..	$38,000, of which $23,000 was secured from a bazaar.
Connecticut Teachers' Annuity Guild	1896	336	1 per cent salary.....	......	. . ..	. ...	.	.....	$3,300.
Baltimore Teachers' Mutual Benefit Association	1896	700	1½ per cent salary, maximum $18	$600	M. 40, Fem. 35..	After 5 years..	......	100	$23,000, of which $17,000 was secured from a bazaar.
Omaha Teachers' Annuity and Aid Association	1897	......	Class A—$10...... Class B—$5	$400	30	After 5 years .	$1 to $50	100	....

[1] Review of Reviews, June, 1897, p. 711.

members as shall be incapacitated from teaching in the public schools of the city of Philadelphia by reason of sickness or advanced age—and also to receive, hold and expend donations of money for aid of other teachers not hereinbefore provided for in such manner as the donors may prescribe.

In framing the provisions of these associations and in making their appeals for members, the promoters of this movement had to take into account the differences between the older and younger teachers and between the lower and higher paid individuals. In the case of the older teachers an appeal could be made on the ground of personal advantage. The older teachers were entering the associations mainly with a view to protecting themselves against becoming dependent in their old age. They realized that in return for their small contributions the associations offered them an annuity which no insurance company would offer them at the same price. If they joined the fund they could soon apply for these benefits. They had little to lose and much to gain; therefore, they cheerfully joined the associations. For this reason the majority of the membership of these associations consisted of older teachers.

A different appeal had to be made to the younger teachers, for they did not fear the coming of old age and did not seek to protect themselves against distant risks. The time, thirty or forty years distant, when they could claim the benefits from the fund seemed so remote, the possibility of remaining so long in the service seemed so dubious, and the reasons for worrying about the dim future so slight, that they cared little whether or not they would ever receive any benefits from a fund. Besides, they wanted their entire salary for their immediate enjoyment and did not care to deprive themselves of even 1 per cent of that salary for the sake of that vague future. For this reason it was extremely difficult to make the young teachers enter the societies. And yet they constituted the greater number and it was upon their support that the success of the associations depended. The few young teachers who

did join the associations did so mainly to help the older members of the profession. The small expense connected with membership they justified as their contribution to the welfare of the profession. Only by appealing to their idealism could the promoters of the associations succeed in soliciting their support.

No serious conflict between the lower and higher paid teachers arose, however, in this movement. The lower grade teachers were in the majority and favored the idea that all members, regardless of their salary, should receive the same amount of benefit but should pay for it in proportion to their salary. In this way they would bear a smaller part of the burden than the higher paid teachers. The latter, expecting soon to retire, readily agreed to pay the higher rate.

Brooklyn was the only fund which adopted a different principle, i. e., that members should contribute in proportion to their salary and should also receive benefits proportionate to their salaries. This principle was far less popular with the lower grades and did not, therefore, gain wide acceptance in the mutual aid movement.

In fixing the rate of contributions the promoters of the associations had to take into account the fact that most of the teachers would not enter the association if a high rate of contributions were required. For this reason a contribution of 1 per cent of salary was adopted.

A very important question with regard to contributions of the teachers whose connection with the association would terminate through resignation, dismissal or death before they completed the required length of service came now to light. The principle was adopted that they should forfeit all their contributions, and that the forfeited contributions should be used to augment the fund available for the payment of benefits to those teachers who survived, completed the required period of service, and were thus entitled to retirement. These forfeitures were considered as one of the most important

sources of revenue of the associations. This principle, as applied to the retirement problem, was borrowed from the oldest retirement funds abroad, where it is known under the name of "tontine." In some associations a teacher who resigned or was dismissed received a refund of one-third of the amount contributed. Objections raised even to partial refunds were to the effect that the interests of the individual who resigned or was dismissed from the profession deserved less consideration than the interests of the entire profession.[1]

Attitude of Government and Public. The government took no interest in the mutual aid movement among the teachers. It saw no reason for interfering in what it regarded as a private teachers' association. Neither did the teachers seek the assistance of the government in the affairs of their organizations. At that time they were probably as reluctant as the government to admit any form of paternalism. In this respect both sides followed the traditions of the American government and of American public opinion.

Neither the teachers nor the government officials then realized that the participation of the government in this movement was desirable on the ground that an unsatisfactory solution of the old age and disability problem in the teaching service vitally affects the efficiency of that service and the interest of the schools. The idea of efficiency of service then did not occupy as prominent a position in the mind of the government administrator, the government employee and the public at large as it does to-day. Government was managed loosely and public opinion was not as self-conscious and as effective as it is at the present time.

At the same time the teachers felt that their cause deserved a sympathetic attitude from the public and that they could obtain voluntary contributions from the public without having recourse to the governmental machinery and incurring the danger of falling under its control. Realizing the need

[1]The inequitable features of the "tontine" are more fully discussed on pp. 108, 109.

for a larger capital and the inadequacy of their own contributions, they set to work arranging bazaars for the benefit of the associations, soliciting the aid of charitable ladies and collecting funds among public-spirited citizens.

The public responded generously to the teachers' campaign. A most successful bazaar was arranged in Boston, by which more than $56,000 was raised. During the first twelve years of the existence of the New York City association, the teachers accumulated from their own contributions about $64,000 and added to this about $76,000 from bazaars and private donations. In Brooklyn, Philadelphia, Washington, D. C., and Baltimore, the associations secured more than half of their capital by means of bazaars and voluntary contributions from the public.

Failure of Annuity Associations. Soon, however, certain features of the annuity associations met with criticism. In the first place the voluntary feature caused disappointment to their promoters because the teachers responded so slowly to their appeals. The promoters became tired of the continuous campaign to secure members, and began to favor the introduction of some measure which would compel all teachers to join the associations and thus increase its income.

Secondly, the private character of these associations was objected to. It was urged that the retirement of old teachers benefited the schools and should, therefore, be made a matter of governmental concern. The following extract from a report of the Boston Mutual Benefit Association, which appeared in 1894 in the annual report of the Boston superintendent of schools, illustrates this idea:

But for this beneficent institution many of these teachers would still be in the employ of the city although unable to do satisfactory work because of ill health or the infirmities of age. They have now given place to younger and more efficient teachers and the city secures the benefit while from the association they receive a comfortable income. Nor is this all. The nearly 1000 members feeling far less anxiety for the

future because of membership, are daily doing better work than they could do if the shadows of coming adversities were ever resting upon them.

The methods of securing the financial support of the public by appealing to individual philanthropy were also criticized because the income they provided was irregular and after all inadequate.

Criticism centered on these defects. The less apparent but more fundamental defect—their actuarial unsoundness—escaped attention. To organize a sound annuity system is not an easy task. It involves the use of mortality rates, interest tables and mathematical formulæ, by means of which an actuary can determine the cost of the annuities and the amount of premiums which should be charged at different ages. The annuity systems of every insurance company are organized upon this basis. But the mutual aid and annuity systems of the teachers were not thus organized. Their promoters thought that they could operate them without using mortality tables and without knowing the cost of annuities, and that they could require the same dues of all members and pay the same annuities to all, regardless of the difference in their ages. They fixed the dues at the uniform and entirely inadequate rate of 1 per cent of salary, and they wrongly expected that the voluntary contributions from the citizens would sufficiently supplement the fund.

Of course, with such serious defects these associations could not permanently exist. During the first few years when retirements were not numerous and the disbursements were small, their income appeared more than adequate. However, in the course of time the insufficiency of their income was bound to appear.

The first association to which this happened was that of Brooklyn. New York City and other associations were next affected. The disbursements exceeded the receipts, benefits were prorated and their capital reduced. The old members

faithfully remained in the fund, because they still expected to receive some benefits from it, but the young members immediately lost all interest for the "lost cause" and withdrew in large numbers. These withdrawals caused a further panic among the members of the organizations and thus accelerated their collapse.

The Beginnings of Unsound Legislation, 1894-1896. The idea that soldiers and public employees should be "pensioned" for their public services, i. e. should receive on their retirement from the active service an annuity payable to the end of their lives either entirely or partly at the expense of the government, or, if at no expense to the government, at least under its management, and that such "pensions" should be established and governed by special laws, was imported to this country from Europe. There pension laws for the army and navy and the state and municipal employees, including teachers, had existed for many years.

In the United States this idea was applied first to the army and navy, next, in 1859, to the policemen in the larger cities, and later to the firemen. But it was not at first applied to teachers. A comparison in the minds of the teachers of their status with that of the teachers abroad and the policemen and firemen in this country was, therefore, inevitable. As early as 1879 and 1881 in New York City and Brooklyn, and in 1891 in New Jersey, small groups of teachers were discussing the idea of obtaining pension legislation. Two tendencies were apparent; one in favor of a straight pension payable entirely at the expense of the government, the other in favor of the establishment of a contributory retirement fund. The first made little headway, as public opinion was opposed to it. The latter made no considerable progress until a few years after the establishment of the first private annuity associations. Then it began rapidly to gain in strength, scope and clearness. In the first place, the operation of these associations strongly supported the contention that the retirement of

old teachers benefited the schools and the government and should, therefore, be made to some extent a matter of governmental concern. In the second place, the apparent weakness of these voluntary associations offered strong support to the idea that legislation should be secured officially establishing retirement systems, compelling the teachers to enter, and making detailed provisions for their retirement. Lastly, the obvious insufficiency of the income of the annuity associations and the disappointment in private philanthropy as a source of income fostered the idea that the government should bear either a partial or entire responsibility for the adequacy of the retirement funds.

Weak attempts to secure pension legislation were made in New York City and Brooklyn as early as 1879; and such attempts were from time to time repeated by the teachers of that city and of other cities in various parts of the country.

The board of education in New York City was opposed to retirement legislation and the task of winning over the legislators and the governor was a difficult one. In 1894, after several failures, the teachers prepared a very mild measure. It provided for the establishment of a fund the resources of which were to come from deductions made from the pay of the teachers because of absence. No contributions were required of the teachers. Despite the opposition of the board of education, the support of the governor was secured and thus in 1894 the first legislation creating a teachers' pension fund in this country was enacted.

It is notable that this pioneer legislation should have adopted no definite principle in the matter of whether the teachers or the government, or both sides, should support the system. The form of revenue was such as to obscure its real derivation. It was generally accepted that the revenue from absence deductions was derived from the teachers, although as a matter of fact it really came from the public treasury.[1]

[1]The fund was also authorized by the law to receive donations, legacies, etc.

Pensions of one-half of the final salary, not exceeding $1,000, could be granted by a two-thirds vote of the board of education to teachers mentally or physically disabled for the performance of duty, upon the recommendation of the city superintendent. The service requirement was 30 years for women teachers, and 35 years for men teachers. The board of education was given complete charge of the fund and the establishment of by-laws for its management. It was empowered to reduce pensions to a uniform rate. The comptroller of the city was made treasurer of the fund.

The establishment of the New York City fund was the signal for renewed activity on the part of the teachers in other cities; bills were prepared in some places by copying almost verbatim the New York City law, and in the two years following no less than eight other funds were created. In 1895 funds were established in Brooklyn, Detroit, Chicago, St. Louis and San Francisco; and in 1896 in Buffalo, Cincinnati and the state of New Jersey. In every case membership in the fund involved a contribution to it. In three cases—San Francisco, St. Louis and New Jersey—membership was voluntary; in the other five funds it was compulsory.

Voluntary Funds Supported by Contributions. While the San Francisco and St. Louis funds were established in 1895, a year previous to the establishment of the New Jersey fund, the history of the latter is perhaps the most illuminating. The bill providing for the New Jersey fund was first introduced in the legislature in 1891, and called for a pure and simple half-pay pension, to be paid entirely by the government. The repeated defeat of this measure, which sought at a stroke to legislate in the most extreme form of government pension systems, finally caused the proponents of the measure to abandon their proposal in favor of a plan for a voluntary self-sustaining fund—in effect a mutual old age and invalidity insurance association, with the state as custodian and administrator of the funds. In this form the measure became law in 1896.

Under the provisions of the law, membership in the funds was purely voluntary; members were to contribute 1 per cent of their salary and were to receive on disability after 20 years of service an annuity of one-half of their salary, with a minimum of $250 and a maximum of $600. After the passage of the law teachers had only three months in which to join.

The difficulties involved in framing a pension system satisfactory to all elements were not escaped in this early attempt.

Not a provision, not a clause does this law contain that has not been objected to by some teacher or by the press. Young teachers found twenty years too long; older teachers found it too short, and feared that it might operate against their tenure in office. The former thought twenty years should not be coupled with disability; the latter thought it should. Low salaried teachers said one per cent assessments were too small; principals and superintendents said it was too large. Women thought we could not afford a maximum annuity of $600; men thought it too low. The press warned the teachers 'if you go in you cannot get out.' Teachers complained about the limited time given them for decision. Those who joined it thought all should be compelled to join and the philanthropic said the rebate clause was unnecessary. Certain principals influenced their teachers not to join. Others, willing to help any advance in the right direction, swung with full corps into line. Two places reported a meagre membership assigned as the reason that their teachers were from other states and did not expect to remain in New Jersey. The others were young and would probably marry.[1]

The table on page 19 shows the principal features of the San Francisco, St. Louis and New Jersey voluntary funds:

It is of interest to note that the membership of each of these funds was less than one-half of the number of teachers eligible, and that the rates of contribution were so inadequate that after two years the larger part of their income had to be

[1]Article of Miss E. A. Allen in Review of Reviews, June, 1897.

VOLUNTARY RETIREMENT FUNDS OF SAN FRANCISCO, ST. LOUIS AND NEW JERSEY, 1897[1]

City	Date of Establishment	Total Number of Teachers	Number of Members	Contributions by Teachers (No contributions by City or State)	Years of Service requisite for retirement (Disability also requsite)	Annuity: Minimum	Annuity: Maximum	Annuity: Average	Annual Income (1906)	Capital
San Francisco.	1895	950	461	1% of salary	20	$540	$600	$540	$5,060	None
St. Louis.....	1895	1,576	590	1% of salary	25 for females 30 for males	60% salary	800	....	3,230	None
New Jersey...	1896	5,384	2,510	1% of salary	20	½ salary or $250	600	280	13,000	$9,000

[1](Extracted from a tabulation in the *Review of Reviews*, June, 1897, p. 711.)

used for the payment of benefits, leaving only a small portion of the income to be set aside as a reserve. The New Jersey fund was forced every few years thereafter to seek amendments allowing the teachers another opportunity to join the fund and offering them various inducements. Seven years later it was necessary to secure an amendment doubling and even trebling the rates of contribution and adopting the compulsory basis for all new teachers.

Compulsory Funds Supported by Contributions. As already indicated, the legislation adopted for Brooklyn, Buffalo, Cincinnati, Detroit and Chicago in the years 1895-96 was compulsory in character. The Brooklyn system differed from all the others, however, in that under it the strictly compulsory feature covered only the new entrants. An option was given to teachers then in the service to join or not to join the fund, but once the option was exercised, the decision could not be changed. This semi-compulsory feature was a compromise between the opponents and proponents of compulsion, and helped to overcome the opposition of some elements in the teaching force.

It is interesting at this point to compare the effects of gradual and violent movements. Having started with a mild measure the leaders of the movement in Brooklyn succeeded in their subsequent attempt to extend the compulsory feature to all teachers. On the other hand, in Chicago, the thoroughgoing compulsory feature created a reaction against the measure and against its former leaders, resulting in legislation repealing the compulsory law and reverting to an entirely voluntary provision. This extreme in turn almost wrecked the fund and led to another movement, this time, happily, for a mild compulsory law.

The provisions of the early compulsory funds under discussion are shown in the table on the page opposite.

It is to be noted that in the case of all these funds the teachers contributed 1 per cent of their salary, whereas the govern-

COMPULSORY RETIREMENT FUNDS[1]

Fund	Date of Establishment	No. of Teachers	No. of Members	Contributions		Length of Service Required for Retirement	Annuity			Annual Income (1896)	Capital
				By Teachers	By City		Minimum	Maximum	Average		
New York City	1894	5033	5033	None, except absence deductions		30 female 35 male	½ pay	$1,000	$600	$60,000	$93,000
Brooklyn[2]	1895	2929	2193	1% sal.	None	30[3]	½ pay	1,200	519	18,900	23,200
Chicago......	1895	4900	5200	1% sal.	None	20 female 25 male	½ pay	600	400	45,000	57,000
Detroit......	1895	740	730	1% sal.	None	25 female	½ pay	400	292	5,400	None
Buffalo......	1896	1100	1100	1% sal.	None	25 or 30 fem. 30 or 35 male	½ pay	600	300	7,000	6,730
Cincinnati....	1896	940	940	1% sal.	None	20 female	½ pay	600	....	7,700	....

[1] *Review of Reviews*, June, 1897, p. 711.
[2] Compulsory for new appointees; optional for teachers then in the service.
[3] Of which not less than 20 years must have been in the Brooklyn schools.

ment did not contribute at all, and that the benefits were fixed at one-half of the salary. The principle of a pension proportionate to salary, which a few years before was recognized only by the Brooklyn Aid Association, was thus adopted in all the five compulsory funds and was soon to become almost universal.

Unsoundness of the Early Funds. The several pioneer funds, to which attention has been given, varied in matters of detail, but they were all alike in the unsoundness of the provision made for their financial stability. They followed the unsound method which had been used by the mutual aid associations; pensions were paid from the annual income of the fund, and the balance of the income set aside as capital. No mortality rates were adopted and no attempts were made to determine the cost of retirement benefits, the liabilities of the fund to all its members, or the amount of income and reserve which the fund should possess if it was in the future to meet its obligations. In most of the systems a provision was adopted that in case of insufficiency of fund the benefits might be prorated, but it was optimistically thought that this would never happen.

In some cases fair warning was given. At the establishment of the New Jersey retirement fund an actuary's report was published in the press, in which the progress of the fund was estimated for the next twenty years and the demonstration made "in plain figures that on the most favorable estimates the fund must fall far behind the demands made upon it. More than half the income needed to meet obligations is provided for only by hopes." But the promoters of the early retirement funds scorned any suggestion that actuarial methods should be invoked. In replying to an actuary's criticism of one of these annuity systems, its secretary wrote that "purely business principles would dictate that we make all restrictions as to age, health, etc. that insurance companies do" as if the entire technique of insurance companies in-

volved nothing else but the making of a few simple restrictions. And again, "We have hearts ready to respond to our needy ones and hands willing to work for them. Can the 'expert' credit these to the assets of his insurance company?" The inevitable fruits of such an attitude as this were not long in showing themselves.

Development of Governmental Contributions. The 1 per cent contribution which already proved inadequate in the experience of mutual aid associations, was also bound to prove inadequate in the retirement funds. In Cincinnati this became clear within two years after the establishment of the fund; in other cities a longer period elapsed but the conclusion was equally plain. Unless the rate of teachers' contributions were increased or another source of income provided, these funds could not continue to provide the promised benefits for any considerable length of time. In most cases the attempt was naturally made to secure aid from the government.

The fact that retirement funds for teachers existed by legislative authority and were to some extent a governmental function, was now more or less firmly established in the minds of government officials and legislators. The wise action of the teachers in giving the government officials the administration and custody of the funds had resulted in the government becoming in a sense responsible for the sufficiency of the funds. These facts paved the way for the next logical step—that of securing legislation which would make the city contribute to the retirement funds.

Here again the movement took the path of least resistance. The leaders of the teachers did not ask for a direct contribution from the city budget, because this would have raised an undesirable discussion and perhaps an opposition on the part of the teachers. They looked for some special source of income which was lying idle or was used for miscellaneous

contingencies and could be quietly diverted to the teachers' retirement fund.

This may be illustrated by the case of New York City. When it began to be realized, in 1896, that in a year or two the income of the fund, which was derived wholly from absence deductions, would be insufficient, the leaders of the movement concentrated their efforts upon securing a portion of the excise taxes. Their efforts were strengthened by two arguments: in the first place, the police pension fund had already enjoyed for many years a portion of these taxes and there was no reason why the teachers' retirement fund should not also partake therefrom; in the second place, the idea of using money thus derived would find favor in the eyes of the public. The bill which they framed provided for a governmental contribution of 5 per cent of excise taxes, and they secured its passage without considerable opposition. Similarly, in Chicago, when the fund was found in the years 1901–07 to be on the point of wreckage, the attempt was made, with eventual success, to have the interest on the school funds turned over to the pension fund.

The success of the teachers in getting the government to make in some form or other a contribution to their retirement fund led to further movements in the same direction. As the disbursements increased and insufficiencies of income threatened their funds, they faced the problem of either increasing their own contributions or else securing an increase of the government's contribution. Naturally the teachers preferred the latter alternative.

Under these conditions less and less emphasis was placed on the old idea that the teacher benefits by contributing to a retirement fund, and more and more on the newer idea that the school system receives the chief benefit. In trying to obtain an increase of the government's contribution the leaders of the movement stressed the argument that efficiency of service is secured by the operation of a retirement fund and that

the primary obligation to support the fund rests, therefore, upon the government.

As a result, the governmental contribution, originally invoked purely as a relief measure, came more and more to be regarded as properly the principal if not the sole source of income for the pension funds. In virtually all the funds the tendency was for the governmental contribution steadily to rise, while the teachers' contribution remained stationary or even diminished. The tendency is well illustrated by the experience of Chicago.

Up to 1907 the teachers were the only contributors to the Chicago fund. In 1907 and 1909 their leaders succeeded in obtaining a city contribution in the form of interest on school funds. Two years later they secured a city contribution equal to that of the teachers. They urged that the teachers had been "generous beyond their means," and that it was impossible for them to set aside from their salaries more than they had been contributing. Hardly three years passed after this increase of the city's contribution when the teachers secured still further legislation making it possible for the city to contribute twice as much as they themselves did.

A similar process took place in Brooklyn and New York. To the Brooklyn fund, established in 1895, the teachers contributed 1 per cent of their salary. Next they got the city to contribute to their fund a portion of the excise taxes and (at the time of the consolidation of the Brooklyn with the New York City fund) the absence deductions. Believing that these two sources of income would be sufficient and that it would not be necessary for them to contribute anything, they secured at the same time the abolition of their own contributions. This resulted in a rapid decrease during the next three years of the excess income of the fund, a decrease which in 1905 threatened the fund with disaster. Realizing that they could not obtain at that time a further increase of the government's contribution, the leaders of the teachers were compelled to

obtain the restoration of a provision for contributions from the teachers. Ten years later the increasing disbursements of the fund exceeded its receipts, and it became apparent that the rate of contributions was inadequate and would have to be increased, but so strong an opposition was shown by the teachers to any increase of their contributions that the unsound condition of the fund was permitted to continue.

The atrophy, in the minds of the teachers, of the principles of self-help and mutual aid may be attributed in large measure to two special conditions—the forfeiture of contributions at resignation and dismissal (the tontine feature) which made the young teachers lose interest in the fund, and the entirely compulsory and automatic way in which their contributions were exacted of them.

The growing idea that the sole purpose of establishing a retirement system is to secure efficiency of service and that the government should, therefore, bear the entire expense thus found favor in a number of cities and states in which the establishment of a retirement system was contemplated. Between the years 1894 and 1917, no less than six cities and five states adopted teachers' pension systems founded upon this principle. During the same years there were set up in sixty-four cities and fourteen states, systems which provided for joint contributions by the government and the teachers.

Unsoundness of Funds Demonstrated. The government subsidies obtained by the unsound contributory funds enabled them to continue for a number of years. But in the fixing of those subsidies the teachings of actuarial science were as a rule no more regarded than they had been in connection with the fixing of the teachers' contributions. Sooner or later the unsoundness of the funds and the impossibility of continuing them on the existing basis became apparent.

The Chicago fund was one of the first to become insolvent. This happened in the year 1900. In response to the demand of a convention of contributors, the board of trustees employed

an actuary to examine the condition of the fund. The actuary reported that "in no ordinary case would the contribution of 1 per cent of salary provide an annuity much if at all exceeding $50 per annum,"—yet the fund had been paying annuities between $400 and $600. The actuary suggested a fundamental reorganization of the fund under which the contributions and annuities should vary according to age of the contributor. This advice however was not heeded. Instead the attempt was made to secure a contribution from the city. They seemed to think that the fund though actuarially unsound could operate for many more years if the vast resources of the city would support it. Thus the report of the actuary was forgotten and the actuarial reorganization of the fund postponed.

In New York City the fund operated for fifteen years without much doubt being raised as to its financial soundness. There, too, the confidence in the city's support overshadowed in the minds of the teachers any uneasiness as to the adequacy of their fund. Not until the disbursements exceeded the receipts in the year 1911 did the managers engage an actuary. But they did not adopt his recommendations as to putting the fund on an actuarial basis and increasing the contributions to an adequate rate because they knew that higher contributions would be solidly opposed by the teaching body. Instead, various makeshifts were proposed by the managers of the fund but were not, however, adopted by the city authorities, who were at that time already advised that the fund was inherently insolvent and would have to be liquidated and replaced by an altogether different system.

Even where it is appreciated that the fund is not on an altogether sound basis, seldom is the extent of the liabilities incurred as a result of such unsound operation adequately recognized. Thus, in the case of the old New York City fund, though the inadequacy of the fund had frequently been alleged,

it required an actuarial investigation[1] to demonstrate that the liabilities incurred by the fund had exceeded its assets by the staggering total of over $54,000,000. The balance sheet of the fund, as developed by this investigation, and some of the comments of the city's commission on pensions on the facts disclosed are worthy of reproduction.[2]

BALANCE SHEET

OLD NEW YORK CITY TEACHERS' RETIREMENT FUND

June 30, 1914

LIABILITIES	
Value of 1,521 pensions already granted	$11,581,210
Value of prospective pensions to teachers now in service	58,228,550
Total	$69,809,760
ASSETS	
Funds in hand	$882,715
Value of future 1 per cent salary contributions of teachers now in service	4,183,725
Value of future city contributions of unexcused absence deductions and 5 per cent of excise taxes which can be credited to teachers now in service	10,000,000
DEFICIENCY, UNPROVIDED FOR	54,743,320
Total	$69,809,760

The liabilities of the fund show the discounted, or "present," value of future pension payments. In explanation, the total liability of the fund shown in the balance sheet in the sum of $69,809,760 represents the capital amount which, if invested on June 30, 1914, will be just sufficient, together with future interest accumulations at 4 per cent, compounded annually, to make future pension payments to teachers already retired and to those teachers in active service on that date who subsequently retire. * * *

The total of the assets—$15,066,440—is inadequate to equal the total liabilities of $69,809,760 by $54,743,320. The amount of this deficiency represents the capital, or reserve, which should have been on hand in the fund in addition to the $882,715 on June 30, 1914, to make the fund

[1]In an actuarial investigation of a fund, the actuary first ascertains the amount of future payments of the fund to all its present pensioners and active members until the death of the last present member, and the amount of contributions which the fund is expected to receive on account of its present members. Both these amounts, the liabilities and the assets respectively, are then discounted back to the date of valuation and the amount of the deficiency is obtained by subtracting the latter from the former. For further discussion of actuarial processes, see pages 101 and 102.

[2]New York (City) Commission on Pensions, Report on the Teachers' Retirement Fund (1915), p. 30 ff.

solvent. It would have enabled the fund, together with future accumulations of 4 per cent compound interest, to supplement its inadequate future income.

The large amount of shortage—$54,743,320—which is a direct result of the fund's insufficient income during the 21 years of its past operation, does not give, however, an adequate idea of the seriousness of the situation. It merely represents the deficiency as it existed on June 30, 1914. The fund's reorganization is made more difficult as time passes, since under the present method of operation it merely serves as a means of developing a constantly increasing deficit.

The rapid increase in the deficiency, due to the absence of the reserve of $54,743,320, may be easily appreciated when it is considered that simple interest alone at 4 per cent of the above amount would have yielded to the fund $2,189,733 for the year ending June 30, 1915. The lack of interest accumulations therefore increased the deficiency during one year to $56,933,053.

A parallel condition could be demonstrated for virtually all the pension funds of this country except those few which have recently been reorganized on an actuarial basis—Massachusetts, New York City, Pennsylvania and Connecticut. They are insolvent in so far as they have failed to provide for adequate reserves with which to meet accrued liabilities as well as liabilities incurred through services rendered since the establishment of the system. It matters not that most of these systems are still able to make payments, still have unexpended cash on hand, and are and will for a few years continue to be able to meet their payments. They are no less insolvent than the systems which are already bankrupt. Only by shifting their huge deficiencies ahead year by year do they continue their existence. By doing so they increase of course these deficiencies because of the continued failure to discount future liabilities. The longer they operate, therefore, the greater are the deficiencies and the more insolvent the funds become.

Present Extent of Teachers' Pension Systems. The establishment, in the years 1894-1897, of the nine pioneer systems has been treated in a preceding section. In 1898 retirement systems were established in Charleston and Newport, so that by the close of the century there were in existence eleven systems, but one of which was state-wide, while the others applied in every case to large cities only.

The next decade witnessed a steady development of the teachers' pension movement. Three state and twenty-eight local systems were established, so that in 1910 there was a total of four state and thirty-eight local systems in operation.

It is within the present decade, however, that the movement has attained its fullest development. Since 1910 it has gathered increasing momentum with each succeeding year. Two large state-wide systems, those of New York and Wisconsin, as well as nine local systems, began operations in 1911. The state system of Arizona and six local pension funds were added in 1912. The greatest activity, however, took place in 1913, 1914 and 1915. During these years, no less than thirteen state-wide and eighteen local systems were created, directly affecting about 127,000 teachers. With the latest addition to the list in May, 1916, of the Erie Teachers' Pension Fund, and in 1917 of the Pennsylvania and Connecticut funds, there were twenty-two state and seventy-two local pension systems in operation affecting approximately 332,554 teachers

The table on the page opposite shows for each year, from 1894 to 1916 inclusive, the several systems established.

Growth of State-Wide Systems.[1] Of the thirty-two states in which teachers' pension systems of whatever kind now exist, twenty-two have state-wide systems.[2] In these twenty-two state-wide systems are embraced nearly four-fifths of all the teachers covered by pension systems in this country.[3] Yet

[1]The term "state-wide" does not necessarily mean that all the teachers of the state are members of the system. In case membership is voluntary, it simply means that it is open to the teachers from any part of the state.

[2]In thirteen of these twenty-two states, local systems, totaling forty-two in number, are still in existence as a result of earlier legislation.

[3]The distribution of teachers under state and local systems in 1917 was as follows:

Systems	No. of Systems	No. of Teachers Covered
State systems	22	249,380
Local systems:		
In states having state systems also	42	66,604
In states having no state systems	30	16,570
	94	332,554

CHRONOLOGICAL LIST OF THE ESTABLISHMENT OF STATE AND LOCAL PENSION SYSTEMS FOR PUBLIC SCHOOL TEACHERS IN THE UNITED STATES DURING THE YEARS 1894–1917[1]

Year of Establishment	Total Number of Systems	State Pension Systems		Local Pension Systems	
		Number	State	Number	Locality
1894	1	....	....	1	New York City
1895	1	....	....	1	Detroit, Mich.
1896	3	1	New Jersey	2	Chicago, Ill.; Buffalo, N. Y.
1897	4	....	....	4	San Francisco, Cal.; Cincinnati, O.; Providence, R. I.; Syracuse, N. Y.
1898	2	....	....	2	Charleston, S. C; Newport, R. I.
1900	1	....	....	1	Boston, Mass.
1902	1	1	Maryland	....	....
1905	1	....	....	1	Youngstown, O.
1906	3	....	....	3	Cleveland, O; Rochester and Troy, N. Y.
1907	5	1	Rhode Island	4	Philadelphia, Pa.; Indianapolis, Ind; Milwaukee, Wis.; Springfield, O.
1908	7	1	Virginia	6	Albany, Yonkers and Cohoes, N. Y.; Hamilton O., Harrisburg, Pa., Brookline, Mass.
1909	8	....	....	8	Baltimore, Md; Minneapolis and St. Paul, Minn.; Denver, Colo; Salt Lake City, Utah; Columbus, O; Omaha, Neb.; Westchester County, N. Y.
1910	5	....	....	5	New Orleans, La.; Atlanta, Ga.; Toledo, O.; Wilkes Barre, Pa, Sandusky, O.
1911	11	2	New York, Wisconsin	9	Dayton and Tiffin, O.; New Haven and New London, Conn; Scranton, Pa; Wilmington, Del., Topeka, Kan.; Duluth, Minn.; Peoria, Ill.
1912	7	1	Arizona	6	Pittsburgh, Pa.; Portland, Ore; Louisville, Ky.; Baltimore County and Allegheny County, Md.; Norwood, O.
1913	17	6	Massachusetts, California, North Dakota, Maine, Vermont, Utah	11	Terre Haute, Ind.; Reading, Altoona and Chester, Pa.; Bellefontaine, Canton, Chillicothe, Norwalk, Piqua, O.; Columbus, Ga.; Mt. Vernon, N. Y
1914	7	....	....	7	South Bend, Ind., Fremont, Lakewood, Massillon, Zanesville, O.; Bristol, R. I., Lancaster, Pa.
1915	7	7	Illinois, Michigan, Indiana, Minnesota, Montana, New Hampshire, Nevada	....	
1916	1	....	....	1	Erie, Pa.
1917	2	2	Pennsylvania, Connecticut	....	....
Totals	94	22	.....	72	

[1] The table includes only those funds that were reported as in existence in 1917 and excludes Evansville in Indiana and eight local systems in New York which had been absorbed by state pension funds during the years 1911-1916.

these state-wide systems are of comparatively recent origin. The tendency toward such systems is an important development in the teachers' pension problem and indicates that the pensioning of teachers employed by small communities is more and more recognized as a state function.

The assembling of teachers in large groups for retirement purposes permits a wider uniformity in the application of principles and facilitates desirable shifting of teachers within a state without the complications brought about by forfeitures of pension rights. The larger systems have the added advantage of permitting scientific management and consequently of securing financial stability. Large numbers give scope for the operation of the law of probabilities affecting deaths, retirements, resignations and other factors, on the correct interpretation of which the solvency of a pension system necessarily depends.

The separate unrelated existence of small pension funds[1] will inevitably be discontinued if the present development of state pension systems progresses. A foreshadowing of this probability is found in the teachers' retirement plan of the state of New York, which offers to local systems the option to be absorbed by the state fund upon a petition signed by two-thirds of their members. By the close of 1915, nine of the seventeen local pension systems in the state of New York had availed themselves of this opportunity,[2] and the teachers of other localities contemplate similar action. Another precedent of this kind is furnished by the state of Indiana which, for the purpose of bringing its teachers into the state-wide pension system established in 1915, is subdivided into 148 units.[3] Each unit—including those of Indianapolis, Terre Haute, Evansville and South Bend, which had previously

[1]Of 72 local systems, 34 have a membership of less than 500 teachers each, 20 systems a membership of less than 250, and 7 have a membership of less than 100.

[2]They are enumerated in table on p. 180.

[3]92 counties, 51 cities with more than 5,000 population, and 6 state institutions.

established local pension funds—may join the state system upon a majority vote of its local authorities and teachers. During the year following the enactment of this law, thirty units, including Evansville, were absorbed by the state system, and since that time undoubtedly many more have been included. The system of Massachusetts, which was established in 1913, took in the fourteen local systems which had been founded under the permissive act of 1908. The new system of Pennsylvania, which covers all the teachers in the state not hitherto provided for, allows the local systems which had been previously established to join the state system and become subject to its provisions if two-thirds of their members favor a merger. It is probable that the majority of the ten local systems will adopt the new law and merge with the state system.

The tendency toward uniformity and consolidation is not so apparent, however, in the case of the larger cities. The city of New York recently reorganized its old system on a sound actuarial foundation, instead of availing itself of the privileges of joining the state system which has not been as yet reorganized on a sound basis. The city of Philadelphia is now engaged in the work of reorganizing its old retirement system. It is considering a proposition by which it will not only accept provisions of the state systems but also provide for its teachers certain additional benefits and introduce certain novel features.

It is possible that the future tendency in the field of teachers' pensions will be more or less similar to the present tendency in the field of education, in which the state tends to maintain certain minimum uniform standards, at the same time allowing local units to introduce higher standards in their schools. In a similar manner the state-wide pension systems will perhaps maintain certain minimum uniform pension benefits and administer them to the better advantage of all the teachers and all the schools in the state, at the same time allowing

the local units to provide for their teachers, on a sound actuarial basis, additional benefits and introduce such improvements as they may deem necessary. Greater progress may perhaps be achieved this way. After the various improvements and experiments have been locally tested, those which have been found most sound can be adopted as state-wide measures. Thus, the state systems and the local systems can stimulate each other toward greater progress.

Conclusion: Present Tendencies and Forces. The present is a period of readjustment. Not only is the appreciation becoming more general that nearly all of the existing systems are financially unsound and must be radically reorganized if they are to continue in operation, but a truer estimate is being formed, not only by the teachers themselves, but by legislatures and state and local officials and the public generally, of the significance of the teachers' pension movement. The principles discussed in the succeeding chapters of this volume do not need to be here rehearsed, but it may be said that a broadening recognition of them is operating throughout the United States as a force tending to bring about a proper relation between the interests of the teachers, of the government service in which they are employed, and of the public of which they constitute an important group. This is reflected not only in the character of benefits supplied and the terms upon which they are granted, but in the forms of management and control and the proper balancing of individual assessments or contributions and the grants from the public purse.

CHAPTER II

THE TEACHERS' PENSION PROBLEM OUTLINED

In the preceding chapter the trend of the development of teachers' pension systems from a condition of financial unsoundness to one of actuarial correctness was pointed out. In the present chapter the chief problems, actuarial and social, involved in the establishment of a sound system will be defined, and the way prepared for the critical and detailed discussion of those problems in the chapters which follow. These problems relate to the proper financing of the projects; to the character of the benefits to be supplied; to the groups of persons to be included; to the distribution of costs, whether as between the teachers and the government or between the different classes of teachers; to the question whether participation should be optional or obligatory; and to the hands in which the management and control of the systems should be vested.

Fundamental to the proper solution of all these questions is a clear recognition of what may be termed the actuarial basis of all pension systems. A satisfactory retirement system involves a promise to each person of the branch of service to which it is applied. The terms of the promise usually vary according to the member's age, length of service, and salary received, not to speak of other special considerations which may be present. The annual and total amounts of the pension payments and the conditions under which they may be demanded are determined by varying factors, the force of which cannot in all cases be exactly predetermined, but must be estimated upon the basis of averages. And, even starting

from this basis, the mathematical calculations involved are such as only skilled actuaries are qualified to make.

It is of course impossible to determine who or how many of the members embraced within the operation of any given pension system will withdraw from the service without asking for or being entitled to a pension, or, having been awarded pensions, how long the recipients will continue to live and draw them. However, it is possible, upon the basis of approved mortality and actuarial tables, to determine with substantial exactness how many of a considerable number of persons will qualify for an annuity, how many will die or resign or be dismissed under circumstances which will disqualify them from receiving a pension, and how many years those who are awarded pensions may be expected to live. Each person to whom the pension system applies represents a certain liability which, under the law of averages, can be determined, and, therefore, provision must be made for meeting it when it accrues, whether by the recipient's own periodical contributions or by proportionate grants from the state. Thus, it is necessary, in effect, if not in actual bookkeeping form, that both a debit and a credit account should be opened for each prospective annuitant, which accounts should be made to balance. In the "reserve," thus accumulated, lies the guarantee to a system's members that the promises made to them will be kept twenty, thirty or perhaps sixty or seventy years later.

Under those systems which provide for contributions from the public purse, the extent of the liabilities assumed by the government at the time of the establishment of the system does not become fully manifest, or at any rate the amounts that must be annually paid do not reach their permanent level until sixty or seventy years later; for it is not until then that the total number of pensioners reaches the level at which deaths may be expected to equal the new accessions of each year. Thus, when a government gives its

support to a newly established retirement system, it is necessary that it should foresee and make provision for meeting the liabilities that will accrue a generation later, in much the same way that when it creates a bonded indebtedness it is necessary to make provision for the time when the bonds will mature and become payable.

Groups of Persons to be Included. The personnel of a school system consists of various groups of employees: superintendents, supervisors, principals, rank and file teachers, teacher-clerks, janitors, and laborers. When the establishment of a pension system in a particular school system is considered, the question arises: Shall it apply to teachers or shall it also allow other groups to come in? Opinions may differ on this question.

The teachers may take the stand that the state or the city need not assist the fortunate ones who receive higher wages and who might, therefore, take care of themselves, but should increase its generosity to the lower paid. They may also claim that they deserve a pension system because of the intellectual character of the work they perform, and that the school employees who perform inferior work do not deserve to be included.

Others, and especially the school authorities, may take a different view. They may argue that the higher paid employees are no less improvident than the lower paid and are in no less need of protection, and, on the other hand that the duties performed by the lower classes of school employees are public duties as well and that the efficiency of the schools may be considerably affected if these employees are not covered by the pension system, with the result that dead wood is allowed to accumulate among them.

The question whether or not a particular class of school employees should be included in a pension system cannot be settled by a mere comparison of their duties and salaries with those of the rank and file teachers. It must be settled on grounds of principle and expediency. The same principle applies

to all classes of employees—it is their protection on one hand, and efficiency of service on the other. The questions thus arise: Is it desirable from the points of view of the employees, of the employer and of the public, that a pension system protecting the particular class of employees be established? Is it desirable from the point of view of efficiency that a system eliminating dead wood be introduced in the particular service? Is the establishment of such a system under certain circumstances and at that particular time expedient and practicable?

In the development of pension legislation the tendency has been towards a steady extension of the pension system to all classes of the school personnel. This tendency may be illustrated by the histories of the New Jersey and New York City Teachers' Retirement Funds.

The New Jersey fund was established in 1896 and was to apply to "teachers in public schools." Three years later an amendment of the law was enacted which interpreted this term as meaning—

Teachers, principals and supervising principals in public schools or in any reformatory or normal school or in any school supported either wholly or partially by public moneys raised under the authority of any law of this state.

The amendment of 1902 included superintendents among the beneficiaries of the fund, and the amendment of 1906 further broadened the application of the system by including under the term "teachers" all city, county or state superintendents, and also teacher-clerks and supervisors.

The broadening of the scope of the New York City fund was similar to that of the New Jersey fund. After the fund was established in 1894, the amendments of 1902, 1905, and other amendments have brought under the system various classes of teachers and administrative officers who had not before been provided for, until at the present time the list of beneficiaries included under the term "teachers" is exceedingly long as may be seen from the following:

'Teacher' shall mean the city superintendent of schools, the associate city superintendents, the district superintendents, the director and the assistant director of the division of reference and research, the director and the assistant directors of the bureau of compulsory education, school census and child welfare, the members of the board of examiners, the directors and the assistant directors of special branches, the supervisor and the assistant supervisors of lectures, all principals, vice-principals, assistants-to-principals, heads of departments, and all regular and special teachers of the public day schools of the city of New York, and all employees of the board of education appointed to regular positions in the services of the public schools at annual salaries and whose appointments were made or shall hereafter be made from eligible lists prepared as the result of examinations held by the board of examiners of the department of education.[1]

The new system of the state of Pennsylvania has gone still further along this line. It was originally devised to include only teachers. As other school employees demanded to be included in the system, the bill was amended so as to include—

any clerk, stenographer, janitor, attendance officer, or other person engaged in any work concerning or relating to the public schools of this commonwealth.

At the same time the name of the system was changed from a Teachers' Retirement System to a Public School Employees Retirement System. In all cases of doubt the retirement board was empowered to determine whether the person is an "employee" as defined in the act. The term "public schools" is interpreted as—

any class school, high school, normal school, training school, vocational school, truant school, parental school or any or all classes of schools within the State of Pennsylvania conducted under the order and superintendence of the Department of Public Instruction of the Commonwealth of Pennsylvania and of a duly elected or appointed board of public education, board of school directors or board of trust-

[1]Civil Service employees connected with the school system are not eligible to membership in the fund.

ees of the Commonwealth or of any school district or normal school district thereof and shall include the offices of the State Department of Public Instruction and the State Board of Education.

In the states and cities in which pension systems have only recently been established, this tendency to extend pension benefits to classes of the school personnel not previously provided for has as yet not appeared, but its early development there, too, may be expected.

Extension of Systems to Contingencies other than Superannuation. The desire to make a provision for old age is almost invariably the primary and quite frequently the sole object had in view in the establishment of a pension system. It is urged by the employees, especially the old employees, who usually are most interested in the establishment of the system, as the main contingency which should be provided for. It is urged by the employer as the most important provision from the point of view of efficiency of service.

In a broader view of the problem, the retirement plan should provide benefits to a large part or all of the members of the school system. It should deal with the contingencies not only of superannuation and of disability after long service, but of death, of disability at any time, and of resignation and dismissal.

On account of the short period in which teachers' pension funds have been in operation in the United States, the scope of their provisions is rather limited. The principal objects are, naturally, the retirement of the superannuated and the disabled. Of the twenty-four systems discussed in the latter part of this volume, only those of Maine and Pittsburgh, and the State Pension System of New Jersey restrict their benefits to superannuated teachers. The other twenty-one systems provide "disability" pensions after various minimum terms of service, in addition to "superannuation" or "service" pensions.

The contingencies of death, resignation and dismissal are inadequately considered or not considered at all in the majority of the existing systems. Of the nineteen contributory systems discussed, only Massachusetts and the new systems of New York City, Pennsylvania and Connecticut refund all contributions with interest in case of resignation, dismissal or death, or provide certain optional benefits. Ten systems refund one-half of all the contributions but without interest in case of resignation, seven do it in case of dismissal, and only four return one-half of all the contributions but without interest to dependents in the event of death. Three systems including the New Jersey Retirement Fund, and the California and Virginia systems offer no refunds in any event.

A great obstacle to the inclusion in the existing systems of provisions against other contingencies than superannuation and disability is the fact that the contributions provided in the existing systems, as later shown, are utterly inadequate to support even the limited scope of benefits now provided. Before the scope of benefits of the majority of the existing systems can be broadened, steps must therefore be taken to reorganize these systems on an adequate and permanent financial basis. Such a reorganization will inevitably involve also a recognition of the importance of the contingencies of death, resignation and dismissal, and the introduction of new benefits, which will be adjusted according to the importance of the contingencies, and also according to the cost involved in providing against them.

Conditions under which Benefits Should be Granted. The several contingencies against which the system is to provide having been determined upon from a consideration of both the needs of the service and the approximate income to be anticipated for the fund, there remain to be determined the exact conditions under which the benefits corresponding

to each contingency are to be granted. As to each of these benefits there arise special problems.

Superannuation Benefit. Superannuation, that is, incapacity caused by old age, does not come suddenly. It is difficult to detect the exact time when the teacher or any other employee has become incapacitated for further efficient teaching or the performance of other services. In view of this difficulty a pension system cannot leave it to the discretion of a superior officer to decide when the teacher or other employee is superannuated. The system must fix certain minimum conditions after fulfilling which the old employee shall be allowed to retire on a pension whenever he feels himself incapacitated. The employees are interested in having these conditions so fixed that they shall not be tied to the service beyond the time of exhaustion. The employer urges that the conditions be fixed neither too low nor too high, so that he will neither lose the services of efficient employees through premature retirement nor be burdened with dead wood which should be eliminated. Public interest requires that every individual should work as long as he is capable of rendering service and should retire from work, without being exposed to want, when he is no longer efficient.

The practical reconciliation of these conflicting requirements is not easily effected. Opinions may differ as to whether age or long service, or both combined, furnish the most accurate index of superannuation. Furthermore, different opinions may exist as to the exact minimum age and minimum length of service which should be adopted. Some urge that a teacher sixty years of age is too old to continue teaching; others that at that age a teacher is usually still capable of teaching and that the age of sixty-five is more appropriate. Still others contend that a teacher who has taught for thirty years is usually worn out though he may be only fifty years of age; while others may maintain that

thirty years of service is too low, and that thirty-five or even forty years should be adopted.

In this conflict of opinion a satisfactory solution of the problem of fixing the conditions of superannuation can be obtained only if a thorough investigation is made of the hazards of the occupation, the average conditions under which superannuation takes place in the particular service, the special requirements of efficiency, and the differences in cost of the benefits which will result from adopting one or the other age requirement or length of service condition.

Disability. The problem of premature disability is not generally appreciated in the working out of pension systems. The old employees are past its dangers. The young employees feeling themselves in full vigor seldom realize that disability may strike them at any moment. The superior officers or the employers do not appreciate the importance of a provision for disability so much as they do that for old age, because the cases of early disability are less frequent, and the connection with the service in the case of a young employee who becomes incapacitated is usually less strong and less intimate. And yet the hardship which premature disability may cause when one is young may be far greater than if incapacity comes in old age when one's children, if there are any, are grown and the responsibilities correspondingly lighter. Cases may arise where without such provision it would be exceedingly difficult to separate the disabled employee from the service and where considerable harm to efficiency would result. Slowly, therefore, the great importance of disability provisions is coming to be understood.

With regard to conditions under which benefits in case of disability should be offered, the question arises whether pensions shall be paid without regard to the length of service of the disabled employee, or whether they shall be paid only in cases where the disabled employee has been connected

with the service for a certain period of time. It may be highly desirable from the standpoint of the employee's interest that adequate protection against disability should be provided regardless of length of service, because disability may come at any time; and yet, from the employer's point of view, there may be no justification for his contributing to the pension of an employee who has but recently joined his service, and perhaps was not in sound physical health when he entered the service.

As a practical expedient under such conditions, it may be proposed that the provision for disabilities, taking place before a certain length of service, may be entirely at the expense of the employees affected, either through coöperative insurance or individual saving, and that only for cases of disability after that period shall a pension be provided, in the cost of which the employer participates. If this be done, the question presents itself: What shall this minimum period be? Shall it be for ten, fifteen or twenty years? In deciding this question the framers of the system must consider not only the protection of the employees, the good of the service, and the public interest in the disability problem, but also the cost involved in disability benefits offered.

There are also other problems of disability conditions which cannot be neglected. These pertain to the administrative aspects of disability benefits, such as mèdical examinations, periodical reexaminations, and the revocation of benefits on termination of disability.

Death Benefits. Provisions for dependents in case of death may be highly desirable from the point of view of the men teachers who usually have family responsibilities and are unable to purchase a sufficient amount of insurance in an ordinary way and at the ordinary prices. Women teachers who usually are unmarried may be indifferent to this class of benefits, or they may even oppose their inclusion in the system, on the ground that death benefits being ex-

cluded their contributions could be reduced or their superannuation benefits increased.

The city or state may take the view that death automatically releases the teacher from the service and that the problem of dependents is a private matter in which it is not concerned; or it may take the opposite view and decide that it would stabilize and increase the efficiency of the personnel and attract to the service a better type of teacher if the system were to offer protection against the gravest contingency of life, against which protection is most frequently sought.

A multiplicity of questions arise in considering the conditions under which death benefits should be provided. A minimum period of service may be advocated, after which, in case of death, a benefit should be offered to dependents partly at the expense of the employer. The difference in economic status as well as in relation to the service between an active employee and a pensioner may be emphasized and different benefits suggested according as death takes place before or after retirement. The difference between the economic conditions of different individuals may be pointed to and various optional benefits advocated. For an intelligent decision of these various questions actuarial estimates of the cost of various death benefits must be prepared, for it may be found that what would be highly desirable would be too costly.

Withdrawal Benefits. The framers of the system may find that considerable differences of opinion exist among employees and employers as to the conditions under which withdrawal benefits, to be paid in case of resignation or dismissal, should be offered. Some employees, most probably the older ones, may take the view that these benefits should be given only after the employee has been connected with the service for a certain period of years, which may be variously estimated at two, five, ten or even a greater number of years. On

the other hand the younger employees will be better satisfied if their contributions are returned to them in case of resignation or dismissal, regardless of length of service.

The government on its side may seek to stabilize the teaching force by holding over the heads of the teachers the constant threat that should they resign or be dismissed they will forfeit all their pension rights and also all their contributions. On the other hand, it may decide in favor of withdrawal benefits if it finds that in absence of such benefits the service would become overburdened with inefficient teachers who would neither resign, fearing to lose their pension rights and contributions, nor be dismissed by their superiors, who would not wish to inflict upon them the heavy punishment of forfeiture of their contributions.

A decision on this point is far-reaching in its effect. It may affect the condition not only in the particular service, city or state, but also in other services and places. Withdrawal benefits offered upon leaving the service at any time or some arrangement for transferring the teacher's contributions or crediting him with them at his new place of employment will facilitate a free migration of teachers. A restricting condition imposed upon these benefits will act as a check against this migration. From this point of view the effect of one or the other provision would be good or bad according to whether migration and interchange of teachers between schools is regarded as desirable as a means of broadening the experience of teachers and raising the educational standards of the schools throughout the country, or whether a greater stability of the teaching personnel is deemed necessary. If the latter end is sought the analysis must be carried further: it must be ascertained whether forfeiture of contributions would prevent the more able among the teachers, rather than the less able, from leaving the service.

Finally, the question must be considered whether or not

it is just that an individual who happens to leave a particular service after a comparatively short space of time should forfeit all the contributions which he made during the past years and should begin anew in his effort to provide against old age, death, etc.

Amount of Benefits. The problem of fixing the amount of benefits to be provided is probably the most complicated one among those faced by the framers of a system. The employees, on the one side, seek to obtain greater benefits; the employer, on the other hand, seeks to obtain the desired results with smaller benefits. The highly paid employees are interested in benefits proportionate to their high salaries, whereas the low paid often favor the reduction of the high benefits at the top of the scale in order to make possible the payment of higher benefits at the bottom of the scale and the establishment in this way of one uniform benefit of a flat amount according to the average need. The employer may be inclined toward graduating benefits according to salary and length of service. If the latter principle is adopted, opinions may differ as to whether the salary of the last year or an average throughout a period of years should be taken as a basis for the computation of the benefit, and what the period for this average should be. Objections may be raised to the adoption of the salary basis on the ground that contributions would be calculated according to average advancement and that the employee who advances more rapidly than the average would receive a greater benefit than he has been paying for; whereas the employee who advances more slowly would receive less than what he has been paying for. Finally, differences of opinion may arise as to the exact amount of the benefit or the exact proportion which it shall have to the salary.

In deciding these questions, the framers of the system must have before them actuarial estimates of the cost of various benefits proposed. They must consider the economic

needs of the employees with the view of making the benefits adequate but not extravagant. They must consider the dictates of efficient service, which require that the benefits should increase either directly or indirectly in accordance with longer service, so as to induce an employee to continue in service after he has completed the minimum requirements and until he feels that he can no longer efficiently perform his duties. They must also determine whether or not a minimum and maximum benefit for the lowest and highest salaried men would be desirable.

With regard to the disability benefit, the framers of the system must consider the difference in the economic situation of the disabled employee as compared with that of the superannuated, as well as the fact that the total amount contributed before disability occurs is usually smaller and the cost not the same because of the different ages and rates of mortality. In accordance with these considerations it may be necessary to fix the benefits at a rate somewhat different from that for superannuation, and further adjustments may be necessary in cases where disability almost merges with superannuation.

The fixing of the amount of withdrawal benefits presents a comparatively simple problem since it is usually solved by returning to the employee the contributions which he has made, either with or without interest compounded thereon.

Division of Cost between Employer and Employees. After the framers of a system have decided on the benefits which the system shall provide, have had prepared actuarial estimates of the obligations under these benefits and of the cost of the system, and have determined the general method of meeting the financial obligations, they are ready to take up with the employer and the employees the question as to who shall bear the cost of the system and how the cost shall be divided.

The framers of the system usually find that this ques-

tion arouses a heated discussion. On one side are the advocates of the "wholly contributory" idea, according to which the system should be supported entirely by dues from the employees themselves. On the other side are the exponents of the "non-contributory" idea, who claim that the employees should not be required to contribute and that the system should be operated entirely at the expense of the employer. Between the two camps are those who favor a compromise, according to which the cost will be borne jointly by the employees and the employer and known as "partly or jointly contributory."

The employer may urge the framers of a pension system to adopt the wholly contributory basis because then he would not need to contribute to the system. A group of employees may advocate its adoption believing that it will assure them greater control over their fund and benefits.

Another group of employees may strongly object to the adoption of such a basis. They may argue that it would be unfair to charge them with the entire cost of a system which benefits the employer to a considerable extent. An economist may argue that it will result in the eventual shifting of a part or all of the cost on the employer in the form of an increase of wages which will have to be granted on that account, and that the system will eventually change to the partly contributory or non-contributory basis. If the argument is urged that the contributions required will be too great in proportion to the salaries from which they are to be deducted, the answer may be advanced that the salaries should be increased so as to enable the employees to make these contributions; and that if this solution can not be applied to the employees already in the service it can at least be applied to new entrants.

The old employees usually urge the adoption of a non-contributory basis for they claim a pension as a gratuity in recognition of long and faithful service. The young employees

may support them in this demand, but for a different reason: they want their entire salary for the satisfaction of their immediate wants and care little to set aside anything for the contingencies of a future which they believe to be remote. The employer may favor the idea of a gratuitous pension because it permits him to exercise a greater control over his employees, to include in the system only such benefits as he desires to give, and to exclude the employees from management of the system.

On the other hand, the more independent employees may fear that a non-contributory system will curtail their freedom; they may object to it because it usually does not offer withdrawal benefits and give the employees a voice in the management. They prefer a system in which their interests and desires will be considered equally with those of the employer and in the control of which they will participate. They want other benefits than those usually provided by a non-contributory system and they are willing to pay for them.

Economists may differ in their opinion on this point. Some may argue that it makes no difference in the long run which basis is adopted, that the incidence of cost will eventually fall upon the employees; that since the employer will depress salaries on account of the pensions he pays, a non-contributory system will become "contributory" in a disguised form, and the "gratuity" will change into "deferred payments" and become a part of the compensation. Other economists may argue that it will make a considerable difference which basis is adopted because it will differently affect various groups among the employees; the older employees will retire before the depressing forces fully develop and affect their wages; the younger generation will be far more exposed to these forces and will have to pay for the benefits of the older, besides paying for their own prospective benefits.

The employer may take the practical view that while it may be theoretically correct that eventually a part of his burden on account of a non-contributory system will be shifted upon the employees, in the meanwhile he will have to bear the entire burden. If he has been furnished with an actuarial estimate of cost involved he may find that the burden will be too great for him to bear alone.

The actuary may find from experience that the non-contributory basis is ill adapted to the establishment of a sound actuarial system, because the employer will sacrifice the actuarial soundness of the system rather than pay the high contributions which will be required.

The public which promotes voluntary and compulsory savings among its members may object to the establishment of a non-contributory system on the ground that it absolves a group of wage-earners from any obligation to save; will be harmful to the individual as well as society at large; will lead to the establishment of similar gratuitous benefits for other wage-earners, and block the spreading of the social insurance movement.

Lastly, a group of employees and the employer may agree to contribute jointly to the system, and yet they may widely disagree as to how the cost shall be divided. Each side may claim that the other will benefit from the establishment of the system more than the other and should, therefore, bear the major part of the cost. Some employees may agree to a deduction from their salary of 1 per cent but oppose any greater deduction, leaving it to the employer to supply the balance of 10 or 11 per cent or more. Others may agree to a contribution of 2 or 3 per cent, but object to a higher contribution on the ground that it will be equivalent to a reduction of wages. On the other hand, the employer may believe that the employees can well afford to contribute 8 per cent or even more and that a contribution on his part of 3 or 4 per cent will be sufficiently generous.

It may be suggested that the employer contribute each year a uniform percentage of salary on account of all employees, or that he match the contribution of every employee, or that he contribute only on account of that number of employees who, according to actuarial estimates, will apply for retirement. Different methods of contributing may be suggested for creating a reserve against the accrued liabilities. It may be proposed that the employer create this reserve by means of equal annual instalments of a certain amount during a certain period of years. Opinions may differ as to whether that period shall be fixed at one hundred, sixty, forty or a less number of years. From the point of view of stability of the system it may be highly desirable to liquidate the deficiency within a short space of time. From the point of view of the employer, considering other expenditures, it may be desirable to spread the deficiency over a longer period and make the annual contribution smaller.

The entire controversy may thus develop into one of bargaining between the two sides. The employees who insist on paying less than 3 per cent may offer to pay 1 per cent more on the condition that the retirement age be lowered a few years or changed to straight service retirement, or that the scale of benefits be increased, or the benefits of higher paid employees reduced, or the proposed system changed in some other respect. The most vital parts of a carefully worked out system may suddenly have to be sacrificed and replaced by less sound provisions for the sake of effecting a bargain.

In view of this wide range of opinion and danger of failing because of the inability to agree on the matter of contributions, the task of dividing the cost of a system between employer and employees becomes exceedingly difficult. If the framers of a system have constructed the entire system so as to benefit the employer and employees in a more or less equal measure, then they must also divide the

cost of benefits more or less equally between them. They must not only follow the fundamental idea, but also be able to impress it upon the employer and the employees.

At the same time they must consider what exceptions to the principle—"division of cost according to benefits derived"—will be necessary. They must decide what will be the maximum amount or percentage of salary which can be exacted from the employees without depriving them of the necessaries of life. They may find that in the case of new entrants, except those entering at older ages, the contributions required will be below the estimated maximum, and equal division of cost between employer and employees will be entirely feasible, but that in the case of the employees already in the service at the time of establishment of the system and older entrants it will not be feasible because the contributions required will be so high as to constitute for the employees too great a hardship.

The division of the cost of benefits for services rendered prior to the establishment of the system must be considered separately from that of the benefits for future services. The framers of the system may find that it will not be possible to divide equally between employer and employees the payment of back contributions on account of prior years, because it will impose upon the employees an impossible burden, and that the employer should cover the major part or even the entire deficiency; but that it will be entirely feasible to divide equally the cost of benefits for future services.

The problem of the lowest salaried employees may be different in certain aspects from that of other classes. Social and other considerations may require that in their case the employer undertake the major part of the cost of their benefits.

Contributions of Individual Members. The distribution of the cost of benefits among the members of the system—that

is, the fixing of the contributions of the individuals—is also a highly complicated and technical problem. It forms an important part of the work of the actuary. The framers of the system must take into account the different mortality of men and women employees; the different periods during which entrants of various ages will contribute; the different periods of prior service which the employees already in the service have to their credit at the time of establishment of the system; the differences in compensation between the higher and lower salaried employees; the different rates of salary advancement between various employees. Unless all these differences are properly reflected in the cost of the benefits, accusations may be made that the framers of the system are taxing men in favor of the women, or vice versa, or making the younger employees contribute for the benefit of the older, or giving higher salaried employees benefits at the expense of the lower paid, and taxing those who advance more slowly in favor of those who advance more rapidly. Because of a failure to recognize some of these differences the system may meet with opposition from one or the other group of employees and its establishment may be seriously hampered.

Compulsory Participation. After the various phases of the question of contributions have been decided, the framers of the system are in a better position to effect an agreement between the employer and employees on the very debatable question: Shall participation in the system be made compulsory or voluntary for the employees?

Many important considerations may urge the establishment of a compulsory feature. It may be imperative from the point of view of efficiency of service that the system be made compulsory, because the failure of some employees to join the system may cause considerable harm to efficiency of service in case they become superannuated or disabled. The interests of the employees may require that they be com-

pelled to join the system and be protected against their own improvidence. Public interest may demand that the wage-earners be compelled to save and that the society be protected against the individual becoming a public charge. It may be essential to the financial stability of the system that membership in it be made compulsory as otherwise only a few employees, mostly the older ones, might join and the system be more exposed to accidental variations in the rates of mortality and withdrawal.

On the other hand, reasons may be advanced against compulsion. The employees may object to any one dictating to them what is for their own good. They may claim that participation in the system was not included in their original contract of employment and that the compulsion would be a violation of their contractual rights. The opposition may be entirely unjustified, and yet, in order not to jeopardize the system, its framers may have to abandon the idea of introducing compulsion for present employees and to apply it only to new entrants, because in the latter case the claim to contractual rights could not be raised.

Along with its advantages the framers of the system must consider certain disadvantages of the compulsory feature: the contribution is deducted from the employee's salary and becomes entirely automatic, it requires no effort on his part, and in the course of time he may lose interest in his protection. In view of this fact it may be found desirable to combine in a proper measure the compulsory and voluntary features; to make compulsory certain minimum contributions and the discharge of certain minimum obligations, but leave optional higher contributions and the discharge of higher obligations.

Right to Management. After all the foregoing questions have been decided the system is almost completed. It remains only to determine by whom it shall be managed. The creation of a special body for its management will usually be

suggested, and the problem will be to decide how that body shall be constituted. The employees may contend that they should control the system and that the members of the retirement board should be elected by them. The employer may desire to keep the entire control over the system in his own hands. It may be suggested as a compromise that the control be divided. Then each side may claim that it should have a majority representation in the board.

Following the fundamental idea of the system, its framers must divide between the two sides the responsibility for the safe management of the system in the same measure as the benefits and costs have been divided between them. They must divide the control over the system in such a way as to safeguard the interests of both sides and effect a settlement between them.

Securing Enactment of the System. After the system has thus been completed the problem is presented of securing its enactment. While a few leaders among the teachers, a few superior officers of the state or local educational system, and a few legislators have perhaps followed its preparation with a great deal of interest, the great mass of the teachers, most of the higher educational officers, and most of the legislators and the public at large have not been advised in the matter. Their attention will be drawn to it only when a bill is actually introduced in the legislature. The framers of the system must satisfy their interests in the matter and be prepared to meet all objections that may arise. They must have a report carefully prepared explaining the conditions which call for the establishment of the system and setting forth its fundamental principles and advantages to the schools, the teachers, and the public at large. Unless this is done a powerful opposition may suddenly develop which will defeat the bill and prevent the establishment of the system.

CHAPTER III

SUPERANNUATION BENEFITS

The object generally first considered in establishing a retirement system is the release from service of those who, because of advanced age, can no longer teach effectively. The arguments for retirement with financial support in such cases are especially strong because, as a rule, a long and faithful service can be pointed to.

Eligibility for Superannuation Benefits. While the justice and the desirability of superannuation provisions are apparent, great difficulty is experienced in determining the conditions of eligibility. A primitive method of dealing with this problem was to require of the teacher a "proof of incapacity." The method is patently defective, because of the difficulty of detecting and positively determining the time when the slow deterioration of the teacher's physical and mental powers has so far advanced as to incapacitate him for further service. The shortcomings of the method have thus been so apparent as to result in its general abandonment in this country and abroad. The only system in this country which still applies it is the New Jersey Teachers' Retirement Fund.[1] In its place have come methods which base eligibility for retirement upon length of service, or upon age, or upon both combined.

The method which takes into consideration only length of service is based on the view that teaching is a particularly exhausting occupation, and that a certain number of years of service exhausts a teacher regardless of age. This contention has never been reduced to a definite statement by

[1]This fund has practically ceased to operate with the enactment on April 10, 1919 of a new retirement system, which is discussed in Chapter XVIII.

any scientific investigation. From the nature of the case, the decision as to the term which is presumed to render the average teacher "service exhausted" must necessarily be arbitrary; in some systems it is fixed at twenty, in others at twenty-five or thirty, in still others at thirty-five or forty, and in some even at forty-five years. Experience shows, however, that no service period is a positive indication of superannuation and that an early entrant may complete the required period of service while still in the prime of life, whereas a late entrant may complete it only late in life and perhaps only long after he has become superannuated.

A far more desirable method is to fix a retirement age, on the attainment of which a teacher may be pensioned, on demand, without submitting to medical examination. The advantage of this method lies in the fact that it is as effective in the case of late entrants as it is in the case of early entrants. It offers a good basis for determining superannuation, provided the age is fixed after a careful investigation of the occupational hazards and of the requirements of efficiency in the particular service.

Some plans combine the "age" and "length of service" methods and grant pensions upon the applicants fulfilling either a minimum age or service condition, or both. The advantages or disadvantages of this method depend on the exact age and service terms adopted and whether one or the other factor predominates.

Credit for Outside Service. In the application of the age and service requirements in any pension plan to a service which is partly recruited from persons who have had service in other jurisdictions, a serious difficulty arises in determining the extent to which allowance shall be made for such service. In the teaching service this complication is always present, as it is considered advantageous to encourage the employment of teachers who have had a number of years of special experience elsewhere, while the prospect of a protected old age holds

out a strong inducement to the teachers themselves to make a change, if they are employed in a system in which unsatisfactory retirement provisions exist. When such teachers after a relatively short term of service become superannuated, the question of their release on an adequate pension presents considerable difficulty. It is frequently regarded as necessary to credit them, not only as respects eligibility to retirement but also as respects the amount of pension, with at least a part of the services rendered outside of the system. In doing this, however, a portion of the pension is paid by the retiring authority for services from which it has benefited only indirectly.

The question of cost is adjusted by either requiring back contributions from the teacher for the years of prior service credited for pension with the government supplying the remaining part, or by placing the entire cost upon the teacher, or by placing it all upon the government. This inequitable burden could be avoided by the interchange of appropriate amounts representing the worth of pension earned by a teacher transferred from one educational system to another. An example of such arrangement is offered by the recently established pension system of federated universities in Great Britain. It is possible that a similar practice will be established in the United States when the theory of teachers' pensions has had time to develop and existing pension systems have been reorganized on a more uniform and business-like basis. However, the fact must not be overlooked that our peculiar state organization of government might present some serious obstacles to the adoption of such an arrangement: the transfer of state funds as between different states would be something almost entirely new in our governmental practice.

Methods Used in Typical Systems. Of the twenty-four state and local pension systems analyzed in the second part of this volume, only two—the Massachusetts system and the Pennsylvania system—make the teacher's age the deciding

factor for eligibility to pension. Ten systems on the other hand disregard the teacher's age and make his claim to a pension dependent on the number of years served. The minimum length of service, entitling teachers in these systems to retirement, ranges from twenty to forty years as follows: Minnesota and Wisconsin, 20 years; Michigan, Chicago and Pittsburgh, 25 years; California, Cleveland, Buffalo and Boston Retirement Fund, 30 years; Baltimore, 40 years. In Buffalo, men are required to serve five years longer than women, and may retire only after 35 years of service.

A combination of minimum age and service requirements for eligibility to retirement is provided in the following systems:

State or City	Age	Service
Illinois	50	25 years
Virginia	50 (58 for men)	30 "
Denver	55 (60 for men)	25 "
Maine	60	25 "
Philadelphia	60	30 "
Boston Permanent Fund	65	10 "

Five systems have alternative conditions of eligibility to pension on application. In three of them teachers may retire upon completing a fixed period of service, or, having reached a minimum age, may have a less number of teaching years to their credit as follows: Connecticut, 35 years' service *or* 15 years' service and age 60; New York State, 35 years' service *or* 25 years' service and age 60; New Jersey State Pension, 35 years' service with 25 in the state, *or* last 20 years' service in state and age 70, or 32 years' service and age 75. The two other systems with alternative retirement conditions are those of New Orleans and New York City; in which age 65 *or* a service of 30 years in New Orleans and 35 years in New York City is required for eligibility to retirement on demand.

The New York State system gives the pension board the right to retire, in its discretion, teachers who have completed 25 years of service. Realizing that such provision, if not

properly safeguarded, might result in premature retirement of teachers in good health, the board has adopted the following restrictive resolution:

Resolved, that generally it shall be the attitude of the State Teachers' Retirement Board to approve the claims of all applicants who have taught in the public schools, as provided by the retirement law, for 35 years or more, or who have rendered such service for at least 25 years and have reached the age of 60 or more years.

All the systems under discussion, with the exception of those of Massachusetts, Connecticut, Pennsylvania, Virginia, Boston Permanent Fund and New Jersey Retirement Fund, make special provision for outside teaching experience by permitting a part of such service to be credited for pensions. These special allowances are by no means uniform, as may be seen from the table on the following page.

Dangers of Premature Retirement. The principal lesson to be drawn from a review of the conditions of eligibility to pension in the twenty-four systems mentioned is the possibility of premature retirement. The same criticism is applicable to nearly all of the teachers' pension systems in the United States. In Minnesota, for instance, the twenty-year service provision places an income for life at the disposal of teachers, who, if they began teaching before they were 20, are but from 35 to 40 years old. The eight systems permitting retirement after 25 or 30 years of service also afford an opportunity for rather early retirement, when it is considered that the majority of teachers enter the profession at an early age. Where minimum age requirements are in force, 50 to 55 years is quite frequently considered the point of physical or mental exhaustion of the average teacher.

That provisions of this nature work a loss to the school system of efficient and capable teachers is a reasonable conclusion. A less important, but none the less practical, objec-

CONDITIONS FOR SUPERANNUATION RETIREMENT

Pension System	Minimum Years of Service Entitling to Superannuation Pension: Total	Within Jurisdiction of Retiring System	Credited for "Outside" Experience
States;			
1. Illinois	25	15	10
2. New York	25	15	10
3. New Jersey Retirement Fund	20 (proof of incapacity)	20	None
4. New Jersey State Pension	35	25	10
5. Connecticut	35 (or 60 yrs. of age)	All	None
6. Minnesota	20	15	5
7. Wisconsin	25	18	7
8. California	30	15	15
9. Virginia	30	30	None
10. Michigan	25	15	10
11. Maine	25	20	5
12. Massachusetts	No minimum service; 60 years of age	All	None
13. Pennsylvania	No minimum service; 60 years of age	All	None
Cities;			
1. New York City	35	20	15 [1]
2. Chicago	25	15	10
3. Philadelphia	30	20	10
4. Cleveland	30	15	15
5. Boston Permanent Fund	10	10	None
6. Boston Retirement Fund	30	10	20
7. Pittsburgh	25	12½	12½
8. Baltimore	40	20	20
9. Buffalo	30 (35 for men)	24 (28 for men)	6 (7 for men)
10. New Orleans	30	10	20
11. Denver	25	15	10

[1] Fifteen years for new entrants. All outside service credited for present teachers.

tion is the high cost of early retirements—a matter which is discussed in another section of this volume.

Compulsory Retirement. Minimum service and age conditions for voluntary retirement deal only with one phase of the superannuation problem. The temptation to retire in the prime of life and, as often occurs, to supplement one's pension after retirement with a salary earned in another teaching system or in another occupation, gradually disappears with advancing age and reduced opportunity for outside employment. The prospect of a half-pay pension and consequent necessity for substantial reduction in one's standard of living is no inducement for the aged teacher to retire. Especially is this true of married men teachers if they have families dependent upon their earnings. Consequently the tendency of the superannuated to remain in service beyond the period of usefulness can only be checked by means of compulsory retirement.

The only effective method covering compulsory retirement is a mandatory provision in the law for the pensioning of teachers who have reached a maximum age limit. Such provision exists in the Massachusetts, Connecticut, Pennsylvania and New York City systems, which automatically place in retirement all teachers who reach the age of 70 years. In none of the other systems under discussion does such a mandatory retirement provision exist.

In many systems the law gives to the pensioning authorities the discretionary right to compel the retirement of teachers who have completed the minimum service and age conditions for pensions. The usual experience in pension administration is, however, that unless such rule is made explicit and mandatory, it fails to be generally applied, if at all.

Amount of Superannuation Benefit. Two conflicting considerations enter into the determination of the amount of pension to be granted a retiring teacher. On the one hand,

limitation of resources requires that the allowance be reduced to the minimum, and be granted only late in life when its payment will be made only during a short period. On the other hand, the effectiveness of a retirement system in inducing the superannuated to relinquish their active salaries depends to a great extent on the ability to offer reasonably high benefits.

The cost of pensions has rarely been given due weight in establishing pension systems in this country. As a result, pensions, though small, are granted to teachers at such an early stage that their payment over a long period of life expectancy[1] demands larger financial resources than have been provided or can conveniently be made available in the future. The amount of a pension has generally been fixed by precedent. Particularly is this true of the half-pay pension idea so generally accepted abroad in retirement plans for public employees, which was adopted in the United States in the first established pension systems and then imitated by those of more recent origin.

While this principle is generally observed in teachers' retirement systems, with respect to the bulk of the personnel, important differences exist in its application. Existing methods of fixing the amount of pension may be grouped in six classes. The first of these, the "savings" method, is not properly a pension plan at all. The simplest pension method is that which fixes a "flat" pension of a uniform amount granted to all retired teachers, irrespective of differences in the term of service or compensation. Other plans graduate the amount so as to make it accord with either length of service or rate of compensation of the superannuated teacher. A more flexible method is one which adjusts the amount so as to reflect the length of a teacher's service as well as the rate of compensation. Finally, the most flexible method is one recently devised,

[1]The "life expectancy" or "expectation of life" is different at each age. It represents the probable number of years of life that persons of the same age may look forward to. See Appendix 4, table 5.

which divides the benefit into two elements and makes one dependent upon the contributions and age of the teacher, and the other upon his length of service and rate of compensation.

"Savings or Thrift" Systems. Under the pure savings systems each teacher's contributions are deposited at interest and are eventually paid to him in a lump sum. The advantage of this method lies in the fact that no one forfeits any part of his contribution or receives more than he contributed at the expense of another; further, it is not necessary to investigate the rates of withdrawal, mortality and other factors determining cost. On the other hand, the disadvantage of this method is that it is a matter of chance whether the amount ultimately received by the member has any relation to his need for financial relief. Thus, the sum of $1,000 might be more than enough in the case of a member who lives but a year after retirement, but would be utterly inadequate in the case of a member who lives a prolonged period. Out of the twenty-four systems selected for study, not one is operated under this method.

"Flat" Pension. In "flat" pension systems the amount generally approximates one-half of the annual rate of compensation. While possibly satisfactory to a majority of teachers, this schedule is inequitable to those whose ambition has advanced them to the higher paying positions or who have remained at work for exceptionally long terms. From the viewpoint of the state or the city the "flat" pension is disadvantageous because it fails to facilitate the release of superannuated teachers and supervisors from places of higher responsibility. For these reasons "flat" pensions are rarely adopted. Of the twenty-four systems subjected to analysis, only four provide uniform pensions and one of these, that of Pittsburgh, is now contemplating granting pensions graduated according to length of service. In the four "flat" pension sys-

tems referred to, the amounts of uniform benefits and the minimum retirement conditions are as follows:[1]

Pension System	Amount of "Flat" Pension	Minimum Retirement Conditions Years of Service	Age
Illinois	$400	25	50
California	500	30	—
Chicago	400	25	—
Pittsburgh.............	500	25	—

Amount of Pension Determined by Length of Service. The method of graduating pensions to accord with the length of service is more equitable to the majority of the teaching personnel than the "flat" pension method, because it provides "more pension for more service." It is likewise more advantageous to the school system, since the prospect of increase in pension tends to keep teachers in the service who otherwise might avail themselves of their retirement privileges at the first opportunity. There remains, however, the serious objection of inadequate pensions for teachers of the higher grades who are expected to retire on a considerably smaller proportion of their salaries than the majority of the teaching force.

Five of the twenty-four analyzed systems provide "length of service" pensions as shown in the table below.

"LENGTH OF SERVICE" PENSIONS

Pension System	Amount Allowed for Each Year of Service	Pension		Minimum Retirement Conditions		Average Pension
		Minimum	Maximum	Years of Service	Age	
Minnesota..	$17.50 (for service up to 20 years) $30.00 (for service after 20 years)	$350.00	$500	20	..	..
Wisconsin..	$12.50	312.50	450	25	..	$365.96[2]

[1]This statement excludes the "flat" pension of the Boston Teachers' Retirement Fund, which originally amounted to $180 per annum, but was recently reduced to $120 per annum. These "flat" pensions are supplemented by considerably larger graduated allowances from the Boston Permanent School Pension Fund. The combined operation of both funds may, therefore, be considered as a system of graduated pensions.

[2]As of September 1, 1915. In obtaining the average one disability pension of less than $312.50 per annum was included.

"LENGTH OF SERVICE" PENSIONS—*Continued*

Pension System	Amount Allowed for Each Year of Service	Pension		Minimum Retirement Conditions		Average Pension
		Minimum	Maximum	Years of Service	Age	
Maine.....	$6.00 (for service up to 25 years) $10.00 (for service after 25 years)	150.00	250	25	60	107.31[1]
Cleveland..	$12.50	375.00	450	30	..	..
Denver....	19.20	......	480	25	55 (60 for men)	..

It will be noted that in all but one of these systems an inducement is held out to teachers to remain in the service after the expiration of the minimum period of service required for retirement, by permitting the increase in the amount of pension allowed to run on after such period, for periods variously fixed at five years in Minnesota, six years in Cleveland, ten years in Maine and eleven years in Wisconsin.

Amount of Pension Determined by Salary. A large number of teachers' retirement systems in this country have adopted the method of adjusting pensions to the teacher's rate of pay at the time of retirement, or to the average rate of pay during a period of years preceding it. One-half of the salary is generally granted with certain minimum and maximum limitations. This method is in one respect an improvement on the "length of service" method, inasmuch as it is more equitable to teachers of varying salary grades. At the same time it disregards an applicant's length of service and

[1]As of May, 1916. The low average is explained by the fact that of the total number of 200 pensioners, 150 had retired before 1913, when the present system was established, and are receiving retroactive half-pensions of $75 to $125 per annum.

consequently discriminates against teachers who have devoted their energies to the profession for exceptionally long terms.

Pensions based on the scale of salary in different systems are shown in the following table.

PENSIONS BASED ON SALARY SCALE

Pension System	Proportion of Salary Granted	Amount of Pension		Minimum Retirement Conditions		Average Pension
		Minimum	Maximum	Years of Service	Age	
New York (State)	½ last 5 years' average salary	None	$600	25	60	$270.03 [1]
New Jersey (State Pension) [2]	½ last 5 years' average salary	None	None	35	..	542.00 [3]
New Jersey Retirement Fund [2]	60 per cent last 5 years' average salary	$250	$650	20 (proof of incapacity)	..	467.00 [4]
Virginia.....	½ last 5 years' average salary	None	500	30	50 (58 for men)	..
Philadelphia.	½ final salary..	$400	1000	30	50	449.00 [5]
Baltimore...	½ last 5 years' average salary	360	600	40	..	..
Buffalo......	½ final salary...	None	800	30 (35 for men)	..	..
New Orleans.	½ last 5 years' average salary	$300	600	30 or	65	425.90 [6]

[1]As of January, 1916; includes disability pensions.

[2]It is interesting to note that a teacher in New Jersey, who proves to the board of trustees of the retirement fund that he has become incapacitated, may retire on an annuity of 60 per cent of the average salary of the last five years. If he has completed 35 years of service he may also receive from the state a pension of 50 per cent of his average salary. The combined benefit from the two sources frequently totals 110 per cent (max. $650; min. $250) of salary. A retirement income larger than the compensation for active service is unprecedented in the history of retirement systems. It offers a substantial inducement to retire immediately upon the completion of the thirty-fifth year of service, a temptation which few, if any, teachers are able to resist. It adds to the difficulties of safeguarding the pension system and the retirement fund.

[3]As of June 30, 1915.

[4]As of June 30, 1916; the average of new annuities granted during 1916 was $546.

[5]As of December 31, 1916; includes disability pensions of less than $400 per annum.

[6]As of August 31, 1915; excludes disability pensions.

Amount Determined by both Length of Service and Salary. The method of graduating retirement allowances to accord with length of service and rate of compensation is free from the disadvantages resulting from the grant of "flat," "length of service" and "rate of pay" pensions described in the preceding paragraphs. It is obviously just to grant to a teacher who has served for a long term of years a higher benefit than to one who has retired at the first opportunity. The practical advantage is in the incentive to the individual to continue in service. It is also apparent that a pension, reflecting an applicant's rate of compensation and, therefore, conforming to his standard of living, affords an especially effective means of releasing from service the incumbents of the higher positions.

Few systems in this country have adopted this method. Of the twenty-four systems analyzed, only the system of Michigan and the Boston Permanent Fund provide "graduated pensions," the detailed provisions being as follows:

PENSIONS GRADUATED ACCORDING TO LENGTH OF SERVICE AND SALARY

Pension System	Proportion of Salary Granted for Each Year of Service	Amount of Pension		Minimum Retirement Conditions		Average Pension
		Minimum	Maximum	Years of Service	Age	
Michigan....	1/60 of last 5 years' average salary	$250	$500	25	..	..
Boston Permanent Fund	1/90 of final salary	104	600	10	65	$339.67[1]

The period of automatic increases in the pension of a Michigan teacher is restricted to five years. An allowance of twenty-five-sixtieths of the last five years' average salary is granted after a minimum of 25 years of service. This allow-

[1]As of January 31, 1916. Average includes disability pensions.

ance increases by one-sixtieth of salary for each additional year of delay in retirement, until a maximum pension benefit of thirty-sixtieths or one-half of salary is paid to teachers retiring after a total service of 30 or more years.

The data shown in the statement for Boston teachers refer to the Permanent School Pension Fund entirely supported by the city. The free pension amounts to one-ninetieth of the final salary for each year of service and varies from ten-ninetieths to thirty-ninetieths of such salary granted after 30 or more years of service. It is generally supplemented by an annuity from the Retirement Fund Association, which is financed entirely by the teachers. The annuity amounted originally to $180, but, owing to shortage in funds, has recently been reduced to $120. The combination of free pension and annuity results in a total allowance of about one-half of the final salary of the rank and file teacher. It amounted to $471.67, on the average, in January, 1916, $132 being the annuity and $339.67 the average free pension granted by the city.

Combined Benefit, Annuity and Pension, Dependent on Contributions, Age, Length of Service and Salary. The newest method divides the benefit into two elements: the annuity and the pension. It fixes the first in accordance with the contributions and age of the members at the time of retirement, indirectly reflecting their length of service and salary. It makes the second either equal to the annuity (Massachusetts and Connecticut) or directly proportionate to length of service and salary (New York City and Pennsylvania).

In Massachusetts and Connecticut each teacher contributes 5 per cent of his salary, irrespective of age at entrance into the service, until he reaches the age of 60 years, when his contributions cease. If the teacher elects to retire at once, he is granted the annuity purchased by the total amount of his individual contributions, with accumulations of interest.

To this annuity is then added a free state pension of equal amount. If the teacher postpones retirement, his annuity increases with each year's delay, owing to the reduction in probable life term. For instance, if a teacher's contributions are sufficient to purchase an annuity of $500 when he is 60 years old, the same contributions, left to accumulate at interest for an additional ten-year period, will pay for an annuity of about $750, if the teacher retires upon reaching the maximum age limit of 70 years. Owing to the fact that teachers pay in the same percentage of salary, the total allowance, annuity plus pension, increases with length of service and rate of pay of the retiring teacher. The adequacy of such an automatically determined allowance depends, however, on an additional factor, namely, the age at which the teacher enters the service, and the consequent number and amount of his contributions before retirement. The allowance to which a late entrant becomes entitled is apt to be insufficient to maintain him in a position approximating that which he enjoyed before retirement. To illustrate, a teacher entering the service at 45 and contributing annually $75, 5 per cent of a salary of $1500, until he reaches 60 would accumulate $1410.61, inclusive of interest. This amount would purchase at that age an annuity of $132.32. In addition to this annuity the teacher would receive from the state a pension of the same amount. The combined benefit, which would total $264.64 or about one-sixth of his salary, could scarcely be called an adequate means of support.

The impracticability of the accumulations of flat rate assessments determining the benefits is thus demonstrated. It emphasizes the advantage of first settling upon an adequate scale of benefits and then calculating the contributions required from teachers of various ages at entrance into the service to produce such benefits.

The new systems of New York City and Pennsylvania are based upon such a procedure and thereby avoid the defects of the Massachusetts and Connecticut systems. The contributions of each teacher are fixed in accordance with his age at the time he begins contributing and according to the number of years of prior service. They are fixed in such a way as to purchase at a certain age and under average conditions of advancement an "annuity" which, together with the city's "pension," will equal one-half of the teacher's average salary of the last ten years. If the teacher advances more rapidly than the average, his combined benefit will be somewhat less than half-pay; on the other hand, if he advances less rapidly, it will amount to more than half-pay. If he remains in the service beyond the superannuation age, his annuity will increase and the total benefit will exceed half-pay. The "pension" is always fixed as a certain proportion of the teacher's salary and increases with each year of service up to 35 years, when it ceases to increase.

The advantage of this method lies in the fact that it reflects the differences between individual cases with regard to six important factors, length of service, salary, rate of advancement, amount contributed by the employee, his age at the time of entering the service, and also his age at the time of retirement. It offers an inducement to a teacher to remain in the service after he has completed the minimum requirements and until he feels that he has become incapacitated; and it is equitable, for it does not tax one group of beneficiaries in favor of another.

Further development of the pension movement will probably result in the introduction of still more ingenious methods.

Provisions for Minimum and Maximum Pensions. The sufficiency of a retirement allowance to support a beneficiary in reasonable comfort is an important consideration. Inadequate pensions, i. e., amounts insufficient to maintain a pen-

sioner, are ineffective as a means of releasing the superannuated from service and, therefore, fail to solve the problem. The scale of benefits in a pension system is fixed with a view to providing an adequate financial protection to the majority of its beneficiaries. As stated in an earlier section, a pension of approximately one-half of the active salary is usually granted to the typical or average teacher. In exceptional cases, however, the application of general rules results in the grant of allowances below a subsistence level. To avoid this minimum pension restrictions are usually adopted. In systems which graduate pensions according to length of service, those entering late in life and becoming superannuated after a short period of teaching are affected. In plans where benefits are based on a fixed proportion of salary, the minimum limitation protects the interests of teachers receiving exceptionally low pay, as is the case especially in rural districts and in the Southern states.

No attempts have been made in existing systems carefully to ascertain what minimum benefit will be sufficient from the point of view of the economic needs of the teacher and the effectiveness of the system. While the purpose seems generally to fix an amount sufficient to shield the pensioner from actual want, the amount is usually arbitrarily determined and varies considerably in different systems, as shown in the table below. Together with the minimum pension the table below presents the average annual salaries. It must be borne in mind that the average salaries of teachers who become eligible to retire on demand or because of superannuation are considerably higher than the averages shown in the statement, which include the salaries of large numbers of young teachers of the lower, initial salary grades. For instance, the average given for all New York City teachers is $1197.00, while the lowest salary, with enough service to its credit for superannuation retirement, is $1500.00.

MINIMUM PENSION PROVISIONS

PENSION SYSTEM	Minimum Pension	Average Annual Salary 1912-1913
Massachusetts	None [1]	$ 657.00
Connecticut	"	....
Pennsylvania	"	....
Denver	"	....
New York State	½ salary	935.70
New Jersey State Pension	½ salary	
New Jersey Retirement Fund	60 per cent salary min. $250	878.75 [2]
Virginia	½ salary	307.17
Buffalo	½ salary	932.50
Maine	$150 [3]	....
Boston Permanent Fund,	312 [4]	1,001.00
Boston Teachers' Fund,	120	
Michigan	250	519.52
New Orleans	300	655.00
Wisconsin	312.50	622.86
Minnesota	350	459.57
Baltimore	360	745.61
Cleveland	375	....
Philadelphia	400	861.00
Illinois	400	662.07
Chicago	400	1,034.00
California	500	1,153.00
Pittsburgh	500	1,031.38
New York City	None	1,197.00

Differences in the cost of living between various parts of the country and particularly between cities and rural districts of a state must be considered when comparison is made of the minimum pensions just presented. Attention is called to the fact that among the first fourteen plans presented, showing minimum pensions of $350 and less, eight are state systems, which in large part are applicable to teachers of rural districts where the cost of living and salaries are low. On

[1] A minimum of $300 is applicable only to teachers who were in the service on July 1, 1914.

[2] In 1915, according to Mr. Fackler's Report on the Teachers' Retirement Fund.

[3] The minimum pension retroactively granted to those who retired before the establishment of the present system in 1913 is $75.

[4] One-ninetieth of salary for each year of service; min. $312 after 30 years of service; min. $104 below 30 years.

the other hand, the eight systems last mentioned, with minimum limitations of $360 and above, operate, with two exceptions, in the larger cities and apply to teachers with relatively high rates of compensation.

Maximum Pension. A certain proportion of salary is frequently established as a maximum limitation on pensions. Such a limitation bears equally on all employees. In this country one-half of the salary is generally the highest pension granted. If pensions are graduated according to length of service or compensation, or depend on both conditions, the variations in amount are below the half-pay level.

In many systems, however, the maximum is expressed as a fixed amount and in such cases affects the retirement of only the higher salaried employees by restricting their benefits to a smaller proportion of salary than is granted to the rank and file.

The maximum limit may present the advantage of preventing extravagant pensions and "excessive protection," but it also presents the disadvantage of not placing the authorities in a sufficiently strong position to retire superannuated higher salaried teachers and supervisors. Its effect depends on how the maximum is fixed.

An examination of maximum limits adopted in existing systems reveals the fact that they have been fixed arbitrarily and at such a low level as to injure the efficiency of the schools. The teachers on whose initiative the systems have been established have not given due consideration to school efficiency. Frequently at the establishment of a system the school administration maintained an attitude of indifference and failed, as a consequence, to protect its own interests. Under such circumstances the majority of teachers of a system have a predominant voice in the determination of retirement conditions. Receiving low or medium salaries they object to their superiors drawing substantially larger benefits than their own. The majority of teachers do not seem to

realize that their opportunities for advancement are lessened by the reluctance of those in higher positions to retire on a fractional part of their salaries. Those who argue that high salaries place their recipients in a better position to protect themselves on their own volition against the contingency of old age seem to overlook one of the most important conditions which has caused the spread of the pension idea. Pensions are provided not only because of the economic inability of the individual to make protective financial arrangements, but also because of his failure to anticipate early enough the possibility of future risks and his tendency to live up to his entire income. This explains why pensions are provided not only for poorly paid laborers, but also for college professors whose salaries are above the mere subsistence level.

The maximum restrictions are also urged as a substantial saving in cost. It must be remembered, however, that they apply to a relatively small proportion of a teaching force. The incumbents of the higher positions, moreover, have generally a tendency to remain in service much later in life than the average teacher. Retiring at advanced ages, their pensions, due to the small number of probable payments, cost relatively less than benefits of like amounts granted to the earlier retiring classroom teachers. Owing to these conditions the total saving which may be effected by maximum restrictions of the usual type generally amounts to but a fractional part of the total liabilities of a pension system.

MAXIMUM PENSION PROVISIONS

PENSION SYSTEM	Maximum Pension	Average Annual Salary 1912-1913
Maine	$250	$ 392.98
Illinois	400	662.07
Chicago	400	1,034.00
Wisconsin	450	622.86
Cleveland	450	....
Denver	480	....
Minneapolis	500	459.57
California	500	1,153.00
Virginia	500 [1]	307.17
Michigan	500 [1]	519.52
Pittsburgh	500	1,031.38
New York State	600 [1]	935.70
Baltimore	600 [1]	745.61
New Orleans	600 [1]	655.00
Boston Permanent Fund	600 [2]	1,001.00
Boston Teachers' Fund	132	
Buffalo	800 [1]	932.50
Philadelphia	1,000 [1]	861.00
Massachusetts	1,000 [3]	667.00
New York City	None	1,197.00
New Jersey State Pension	½ salary	935.70
New Jersey Retirement Fund	$650 [4]	....

[1]Pension also limited to one-half of salary.
[2]Pension also limited to one-third of salary.
[3]At age sixty, allowance automatically increases to about $1,500 if retirement is postponed until age 70.
[4]Pension also limited to 60 per cent of salary.

CHAPTER IV

DISABILITY BENEFITS

The release of teachers from active service because of disease or illness before they have complied with the regulations for superannuation retirement is a particularly difficult phase of the pension problem. The establishment of disability features is necessary to school efficiency, because the presence in the classroom of a sick teacher is as unjust to the children as is the presence of one incapacitated because of old age. The suffering which is caused by cases of early disability is pitiable and makes a strong appeal to human sympathy. The appeal is strengthened by the consideration that there is no adequate insurance against disability available to the teacher within his means, and that on the other hand his savings, if any, during a generally short period of service are insufficient to provide satisfactory relief. As a result, where disability provisions are lacking, the sick teacher continues to teach longer than is good either for himself or the school, or else administrative authorities are tempted to an overliberal interpretation of rules for sick leave with pay, which is an expensive and unsatisfactory substitute for disability pensions.

Due to the comparatively infrequent occurrence of bona fide disability the contingency is one which may be guarded against through coöperative effort. The cost of moderate disability provisions is slight as compared with the cost of superannuation pensions, if sufficient care is taken to safeguard them against unwarranted use.

To establish proper safeguards, however, is a real difficulty. For the protection of all concerned, those entering the

service must be required to be in good physical condition. The grant of a disability pension must be preceded by a reliable examination of the applicant and must be followed by periodical reexaminations to test the continuance of the disabling disease or illness. On the thoroughness of these protective measures depends the beneficial effect of disability features as well as their cost.

Conditions under which Disability Benefits are Provided. Although the majority of existing pension systems include provisions for the retirement of disabled teachers, the scope and nature of the rules clearly indicate that the disability problem has not been given adequate consideration. Of the twenty-four systems subjected to detailed study, two, one operating in the state of Maine and the other in the city of Pittsburgh, entirely disregard the existence of the disability problem. The new system of Connecticut started without a disability provision.[1] The rules of twenty systems take cognizance of disability only after varying periods of service.

The risk of disability, it must be remembered, is ever present, and release from active duty is desirable, irrespective of the number of years the disabled teacher may have taught. This makes the absence of provisions, during the first years of service when the teacher is least prepared financially to take care of the contingency of disability, most regrettable. The omission is not warranted by considerations of cost, which is relatively small because of the infrequency of cases of disability among the younger and generally healthy teachers. It is probably due to difficulties in properly safeguarding the grant of disability pensions that they are not provided in existing systems until the teachers have to their credit certain minimum terms of service.

As in connection with superannuation benefits, applicants for disability pensions are credited in many plans with a cer-

[1]The New Jersey 35-year Service Pension does not contain a disability clause, but the New Jersey Teachers' Retirement Fund supplements it with a disability provision.

tain proportion of their service outside the jurisdiction of the educational system from which they seek retirement. The

CONDITIONS UNDER WHICH DISABILITY BENEFITS ARE PROVIDED

Pension System	Minimum Years of Service Entitling to Disability Pension		
	Total	Within Jurisdiction of Retiring System	Credtied for "Outside" Experience
States:			
1. Pennsylvania	10	10	..
2. Illinois	15	6	9
3. New York	15	9	6
4. New Jersey Retirement Fund	20	20	None
5. New Jersey State Pension	..	No disability provision	..
6. Massachusetts	20	20	None
7. Minnesota	15	10	5
8. Wisconsin	18	18	None
9. California	15	15	"
10. Virginia	20	20	"
11. Michigan	15	15	"
12. Maine	..	No disability provision	..
13. Connecticut	..	" " "	..
Cities;			
1. New York City	10	10	None
2. Chicago	15	9	6
3. Philadelphia	5	5	None
4. Cleveland	20	10	10
5. Boston Permanent Fund	10	10	None
6. Boston Retirement Fund	2	2	"
7. Pittsburgh	..	No disability provision	..
8. Baltimore	20	20	None
9. Buffalo	20 (25 for men)	16 (20 for men)	4 (5 for men)
10. New Orleans	5	5	None
11. Denver	10	10	"

minimum service restrictions in the twenty-four systems under consideration are shown in the table above.

Amount of Disability Benefits. The principal points discussed in a preceding chapter regarding the amount of super-

annuation pensions apply with equal force to disability allowances and need not be repeated. It is important, however, to emphasize the desirability of scaling disability benefits (granted after relatively short periods of service) below the amounts which are available to superannuated teachers. This is required not only by considerations of equity but as an important protection to disability reserves against abuse by teachers, who allege disability merely because they wish to be pensioned earlier than is permitted under the stricter provisions for retirement. If, for instance, the disability benefit after 10 years of service is equal to the superannuation pension granted after 30 years of service, the incentive for early disability retirement may, in certain circumstances, such as impending marriage, or change of residence or occupation, prove so strong as to overcome the customary safeguard of a medical diagnosis, never infallible at best.

The importance of keeping disability benefits below the level of superannuation pensions has been recognized in all but three of the foregoing twenty systems which have disability features. These include the systems of Virginia and Buffalo, which provide half-pay pensions irrespective of length of service or cause of retirement. The New Jersey Teachers' Retirement Fund grants 60 per cent of salary to those disabled after 20 or more years of teaching. It must be observed, however, that the incentive to retire soon after having taught 20 years gradually disappears as the teacher continues to serve, since the state pension system supplements the disability annuity by a straight pension of 50 per cent of salary, if a teacher has had 35 years of service.[1]

The extent to which disability benefits may be reduced has its limitations; as the subsistence level is reached a minimum restriction becomes necessary. Such limitations have been generally provided, the commonly established minimum pen-

[1]The new law enacted in New Jersey on April 10, 1919, and discussed in Chapter XVIII, abolished this double system.

sions varying as a rule between $200 and $250. There are, however, a number of systems which have no minimum restrictions and grant pensions after short periods of service of such small amounts that they are apt to place the beneficiary in the predicament of not having enough to live on and too much to prevent his dying.

The twenty systems which include disability provisions have a bewildering variety of regulations for the determination of the amount of pension. In the table on the page opposite these have been arranged in the ascending order of their minimum pension amounts.

Medical Examinations and Reëxaminations. Provisions for the retirement of disabled teachers are a part of the general subject relating to the health condition of the teaching personnel, some phases of which are not customarily considered in connection with the pension problem, although closely related to it.

First of all the recruiting of the personnel must be considered. Though teaching does not involve special physical hardship or exposure to inclement weather, it imposes considerable strain on the nervous system of the teacher, because he is required to exercise constantly and to an unusual degree patience and self-control. It is important, therefore, to subject applicants for teachers' positions to a thorough medical examination, especially of the nervous system, to insure that only those enter the service who are able to withstand the mental strain which is inevitably imposed by classroom work. These entrance tests are of special importance where disability benefits are available immediately upon entrance or after a few years of service. It is a safeguard against diseased individuals entering the profession for the sole purpose of claiming a disability allowance. Medical examinations are required by the entrance regulations of the majority of educational systems. As a rule, however, they are superficially made and cannot compare in thoroughness with the medical

AMOUNT OF DISABILITY BENEFITS

Pension System	Minimum Service for Disability Retirement	Scale of Pension	Minimum Pension
Massachusetts	20	"Annuity" plus "pension" of 1/30 of superannuation pension for each year of service	.....
Pennsylvania	10	1/90 of salary for each year of service	30 per cent of salary
New Orleans	5	1/80 of salary for each year of service	6.25 per cent of salary and $50
Philadelphia	5	1/60 of salary for each year of service	8.33 per cent of salary and $66.67
New York City	10	20 per cent of salary plus annuity	20 per cent of salary
Michigan	15	1/60 of salary for each year of service	25 per cent of salary
Baltimore	20	1/80 of salary for each year of service	25 per cent of salary
New York State	15	1/50 of salary for each year of service	30 per cent of salary
Chicago	15	$133.33 for 15 years' service, increased by $26.67 annually	$133.33
Denver	10	$19.20 for each year of service	$192.00
Wisconsin	18	$12.50 for each year of service	$225.00
Boston Retirement Fund	2	$132.00	$132.00
Boston Permanent Fund	10	1/90 of salary for each year of service	$104.00
Illinois	15	$16 for each year of service	$240.00
California	15	$16.67 for each year of service	$250.00
Cleveland	20	$12.50 for each year of service	$250.00
Virginia	20	50 per cent of salary	50 per cent of salary
Buffalo	20 (25 for men)	50 per cent of salary	50 per cent of salary
New Jersey Retirement Fund	20	60 per cent of salary	60 per cent of salary and $250
Minnesota	15	$17.50 for each year of service	$262.50

tests to which applicants for policies are subjected by life insurance companies.

The health of teachers in active service is the next important question. It involves the consideration of all conditions under which the teacher must labor, including sanitation of school buildings, supervision of the health of school children with whom the teachers are in daily contact, and other measures. Of more direct bearing on the pension problem, however, are existing regulations relating to the absence of teachers from duty on account of ill health. The payment of full or reduced salary during leave of absence, especially of long duration, is in the nature of a temporary disability pension. If such leaves are granted judicially, they produce a beneficial effect on the service and tend to lessen the number of permanent disability retirements. The machinery for the administration of sick leave regulations serves also as an important check on the health condition of individual teachers, and facilitates the compulsory retirement of sick teachers on disability allowances.

A thorough medical examination of a teacher who is to be retired because of accident or disease is the most important safeguard for the disability features of a pension system. For obvious reasons it would appear unwise to use the certificate of an applicant's private physician as a sufficient basis for the grant of a disability benefit. To insure reliable reports it is important that medical examinations be made by physicians under the pensioning authority. Because of their familiarity with the demands of the teaching profession, such physicians are in a much better position than private practitioners to determine whether or not a teacher is unfitted for the work of a classroom. It is also desirable that the official medical examiners be specialists on nervous diseases, which are the principal cause of breakdown among women teachers.

A review of the rules of the twenty-four pension systems

analyzed fails to disclose thorough methods of disability examinations except in the new systems of New York City and Massachusetts. In the first place, the legal language relating to the disability features is generally vague, leaving it to the discretion of the pensioning authorities to devise such rules as they may deem best. Only in ten systems[1] is special mention made in the law with regard to the certification of disability by physicians of the various pension boards. In other systems disability pensions may be granted on the basis of certificates of physicians who have no official connection with the retirement authorities and whose fees come from the applicant.[2]

Of no less importance than the medical examination of applicants for retirement is the periodical reexamination of pensioners for the purpose of testing the continuance of disability and the return to duty of those whose health has been restored. The prospect of such periodical reexaminations serves also as an effective safeguard against unwarranted retirement applications.

The only system which makes provision for systematic compulsory reexaminations is the new system of New York City. In the systems of Illinois, New Jersey, Minnesota, Virginia and Philadelphia, rules exist for the termination of pension if a disability pensioner resumes teaching. The practical value of such rules, however, is very limited as the return to duty is made on the initiative of the teacher and not as a result of systematic administrative supervision of the disability pensioners.

[1]Illinois, New Jersey, Minnesota, California, Chicago, Philadelphia, New Orleans, Massachusetts, New York and Pennsylvania.

[2]This was the practice in the old system of New York City. The new system requires the applicant to be examined by the board's physician.

CHAPTER V

DEATH AND WITHDRAWAL BENEFITS

Death Benefits. Responsibility for the support of others makes the carrying of life insurance one of the obvious duties of the individual. It is for this reason that the risk of death is most frequently provided against, although it is neither the most immediate nor the most expensive risk which has a claim upon the individual's earnings.

Coöperative effort of a large homogeneous group of individuals is the best and cheapest method by which the risk to the individual may be reduced. Especially is this true of life insurance in an educational system. It requires relatively low premiums as contrasted with those of insurance companies, not only because the costs of soliciting agents and of administration are reduced and the profits eliminated, but because the mortality among teachers is low as compared with that of the average of insured lives.

The opportunity for making a retirement measure more attractive by including the comparatively inexpensive death benefit among its provisions has not been appreciated in the establishment of existing pension systems. This is probably due to the fact that the proportion of men, who alone are apt to be actively interested in life insurance, is comparatively small, comprising in 1912-1913 only about 20 per cent of the total teaching personnel in the United States. Death benefits are accordingly considered in existing systems only in relation to the propriety of refunding the accumulated contributions of members.

Nineteen of the twenty-four systems analyzed exact con-

tributions from teachers. Only eight systems, however, operating in Minnesota, Cleveland, Baltimore, New Orleans, Massachusetts, Connecticutt, Pennsylvania and New York City provide for refunds in case of death. The system of New York City also provides an additional death benefit in certain cases.

The systems of Minnesota, Cleveland, Baltimore and New Orleans provide for the refund in case of death of only one-half of the teacher's contributions without interest. In Minnesota and Cleveland teachers contribute flat amounts, in Baltimore and New Orleans a proportion of salary. In all four systems the assessments are small and average from 1 per cent to 2 per cent of salaries. The refunds of one-half of these assessments, especially without interest, are consequently insufficient. Even after a long period of contribution they are barely sufficient for defraying funeral expenses as may be seen from the statement on the following page showing the refunds payable under the systems of Minnesota, Cleveland and Baltimore (New Orleans having a scale of assessments, and hence of refunds, similar to that of Baltimore).

Much more adequate are refunds of contributions in Massachusetts and Connecticut, where teachers contribute 5 per cent of salary, and their entire accumulations with compound interest are returned.[1] The minimum assessment is $35 from salaries of $700 and less, and the maximum $100 per annum from salaries of $2000 or more. The accumulations during the first years of service are too small to take the place of customary life insurance. After the sixteenth year, however, they exceed one year's salary and may be considered as adequate death benefits. The refunds which become available at the end of each successive year are presented on page 89.

The recently enacted scientific systems of New York City

[1]Interest is credited at such rate as has been actually earned. Four per cent was credited in 1916.

Refund of One-Half of Teachers' Contributions in Minnesota, Cleveland and Baltimore

Year	Minnesota	Cleveland	Baltimore (Maximum Refunds)
1	$ 2.50	$10	$ 7.20
2	5.00	20	14.40
3	7.50	30	21 60
4	10.00	40	28 80
5	12.50	50	36.00
6	17.50	60	43 20
7	22.50	70	50.40
8	27.50	80	57.60
9	32.50	90	64.80
10	37.50	100	72.00
11	47.50	110	82.75
12	57.50	120	93.50
13	67 50	130	104 25
14	77.50	140	115.00
15	87.50	150	125.75
16	97.50	160	136.50
17	107.50	170	147.25
18	117.50	180	158.00
19	127.50	190	168.75
20	137.50	200	179.50
21	152.50	210	193 90
22	167.50	220	208.30
23	182.50	230	222 70
24	197.50	240	237.10
25	212.50	250	251.50
26	212.50	260	265.90
27	212.50	270	280.30
28	212 50	280	294.70
29	212 50	290	309 10
30	212 50	300	323.50

and Pennsylvania provide for a return to the dependents of a deceased teacher of all his contributions together with compound interest at 4 per cent. In addition, in New York City, in case death occurs in active service, after the teacher is eligible to retirement, his dependents receive a benefit equal to one-half of his annual salary. Furthermore, novel features are included in the systems which considerably improve the provision for dependents as compared with the provisions in

other systems. A teacher is given two options: one, to reduce his benefit with a provision that in case he dies before he has received the total value of his annuity and pension, the

Amount of Annual Contributions Increased by 3 Per Cent Compound Interest

Year	Annual Assessment $35	Annual Assessment $50	Annual Assessment $75	Annual Assessment $100
1	$ 35.39	$ 50.56	$ 75.84	$ 101.13
2	71.85	102.64	153.96	205.28
3	109.40	156.28	234.42	312.57
4	148.07	211.54	317.31	423.07
5	187.91	268.44	402.66	536.89
6	228.94	327.06	490.59	654.12
7	271.20	387.43	581.14	774.87
8	314.73	449.62	674.43	899.24
9	359.57	513.67	770.50	1,027.34
10	405.75	579.64	869.46	1,159.29
11	453.32	647.59	971.39	1,295.19
12	502.31	717.58	1,076.37	1,435.16
13	552.77	789.67	1,184.50	1,579.35
14	604.75	863.93	1,295.89	1,727.85
15	658.29	940.41	1,410.61	1,880.82
16	713.43	1,019.18	1,528.77	2,038.36
17	770.22	1,100.32	1,650.48	2,200.64
18	828.72	1,183.89	1,775.83	2,367.79
19	888.98	1,269.97	1,904.95	2,539.94
20	951.04	1,358.63	2,037.94	2,717.27
21	1,014.97	1,449.96	2,174.94	2,899.91
22	1,080.81	1,544.02	2,316.03	3,088.03
23	1,148.63	1,640.90	2,461.35	3,281.80
24	1,218.48	1,740.69	2,611.03	3,481.38
25	1,290.43	1,843.47	2,765.20	3,686.94
26	1,364.54	1,949.34	2,924.01	3,898.68
27	1,440.87	2,058.38	3,087.57	4,116.76
28	1,519.49	2,170.69	3,256.03	4,341.39
29	1,600.46	2,286.38	3,429.57	4,572.76
30	1,683.87	2,405.53	3,608.29	4,811.06

balance shall be paid to his heirs or assigns; and, two, to reduce his benefit so that the same benefit or one-half of that benefit shall be continued throughout life to his dependents. The importance of these options is tremendous for they make

the systems applicable to individual conditions with regard to dependents, and involve not only the teachers but also the city's contributions. Their introduction in the systems of New York and Pennsylvania thus furnishes an important precedent.

Benefits at Resignation or Dismissal. When a teacher resigns or is dismissed, before becoming eligible to pension, the question arises as to his right to a proportionate part of such pension. In "non-contributory" pension systems this is generally denied on the ground that pensions are a reward for long and continuous service which is of special value not compensated for by regular wages, and that it can only accrue if the employee remains with the employer during the entire working period of his life.

In systems which are entirely or in part supported by contributions of employees, the return of such contributions comes into question. Where the assessments are low, they are frequently forfeited on the theory that they are made on the straight insurance basis and that the teacher has received full value for each year's payment to the fund in the form of protection against superannuation or earlier disability.

Early life insurance organizations abroad and in this country, operating upon the "forfeiture" basis, provided life annuities to their surviving members by means of the lapses of premiums obtained from those members who withdrew from the organization through death or otherwise. They were generally known under the term "tontine."[1] With the development of scientific principles of insurance, laws were

[1]The Standard Dictionary defines the "tontine" as "a form of life annuity" and describes the original tontine as follows: "The income from the common fund contributed by the persons composing the tontine is divided at first among all, say 100. When one dies, his share passes, not to his heirs as part of his estate, but to the 99 survivors of the tontine, and so on continuously, the profit increasing to each survivor as the number diminishes, until the final survivor takes the whole, and at his death the tontine ceases." The plan owes its name to Lorenzo Tonti, an Italian banker of the seventeenth century.

enacted in almost every state forbidding the operation of "tontines," and requiring life insurance companies to provide cash surrender benefits to the policyholders whose policies were canceled through non-payment of premiums or other cause.

The advantage claimed for the "forfeiture" method in connection with pension systems is that it permits the payment of higher benefits than could otherwise be provided to those who remain in the service for the prescribed period and then retire. The objection remains, however, that it is inequitable in that it takes money from the unfortunate ones who resign or are dismissed or from their dependents in the event of death, in order to give it to the fortunate few who become eligible to retire. The non-return of contributions toward the more or less uncertain contingencies, such as death or disability, may have its justifications; but the forfeiture of accumulations against dependency in old age cannot be logically defended. If adequate provision is to be made against this contingency a certain part of the employee's wages must be set aside during the entire earning period of his life. A teacher leaving a particular educational system is still confronted with the necessity of providing for old age, which is the most expensive and least uncertain risk he has to face. If he forfeits all the accumulations he has made he is placed in a particularly disadvantageous position. He has to begin anew with a materially increased annual charge for the protection sought because of the shortening of the period during which accumulations can be made. Unless, therefore, the teacher transfers his services to another educational system which pays non-contributory pensions or credits "outside experience" for pension purposes, he is heavily and unjustly penalized.

This injustice makes difficult the dismissal of incompetent employees, since a superior official dislikes to cause his subordinates not only the loss of pension but also the loss of their

savings. On the other hand, the argument that forfeitures discourage resignations and stabilize the service is of doubtful value. Unjust and arbitrary measures may temporarily accomplish a given purpose; but they engender dissatisfaction and resentment, the effect of which vitiates the apparent advantages.

That forfeitures of contributions lead to dissatisfaction is one of the most tangible lessons derived from a study of pension history. Pension systems abroad which have been long enough in existence to furnish such lessons had to modify their purely routine provisions to conform to principles of equity and justice. As a result, the return of employees' contributions with accumulations of interest is a rule which finds very few exceptions in foreign contributory retirement plans. Non-contributory pension systems have resorted to the somewhat awkward and expensive alternatives in the form of lump sum gratuities or compassionate allowances, or else they have changed to the contributory method of support and included provisions for refunds.

The rules of the nineteen analyzed systems which exact contributions from teachers are presented in the statement on the page opposite. They show that the justice and the practical advantage of refunds have not been fully recognized. Only four, the Massachusetts, Pennsylvania, Connecticut and New York City systems provide for a full return of all contributions with interest accumulations. Four systems make no refunds. Those allowed in eleven systems in no case include interest accumulations and frequently amount to only one-half of the teachers' contributions.

Withdrawal and Loan Privileges. In addition to the benefits provided at retirement or withdrawal from the service through resignation, dismissal or death, new systems tend to extend their benefits to the period of active service. Thus, the new system of New York City permits its members to withdraw from the fund that part of their accumulations

Provisions for Resignation or Dismissal

Pension System	Return of Contributions in Case of		
	Resignation	Dismissal	Death Before Retirement
States:			
1. Illinois.........	One-half, if teacher served less than 15 years	None	None
2. New York......	None	"	"
3. New Jersey Retirement Fund	"	"	"
4. New Jersey State Pension		Non-contributory system	
5. Massachusetts..	All, with interest	All, with interest	All, with interest
6. Pennsylvania...	All, with 4 per cent interest	All, with 4 per cent interest	All, with interest
7. Connecticut....	All, with interest	All, with interest	All, with interest
8. Minnesota......	One-half	None	One-half
9. Wisconsin......	One-half	One-half	None
10. California......	None	None	"
11. Virginia........	"	"	"
12. Michigan.......	"	"	"
13. Maine.........		Non-contributory system	
Cities:			
1. New York City.	All, with 4 per cent interest	All, with 4 per cent interest	All, with 4 per cent interest
2. Chicago........	One-half	All	None
3. Philadelphia....	None	"	"
4. Cleveland......	One-half	All, if teacher served less than 20 years; pension if teacher served more than 20 years	One-half
5. Boston Permanent Fund		Non-contributory system	
6. Boston Retirement Fund	One-half	All	None
7. Pittsburgh.....		Non-contributory system	
8. Baltimore......	One-half	None	None
9. Buffalo........	All	All	All
10. New Orleans....	One-half	All	All
11. Denver........		Non-contributory system	

which is above the minimum required by law, and to borrow from the fund on an assignment of a life insurance policy a sum not exceeding the loan value of the policy. A member is also allowed from time to time to increase or reduce his rate of contribution to his savings and annuity account, provided he does not reduce it below the minimum rate required by law. These benefits may help in various cases of financial stringency and make a soundly devised system still more applicable to individual conditions.

CHAPTER VI

DETERMINING THE COST OF BENEFITS

The nature of the benefits to be provided by the system having been decided upon, the next problem is to determine the probable cost of providing those benefits at any named date in the future, in order that methods may be adopted to insure that an income adequate to meet the computed cost may at all times be available.

Growth of Pension Payments. It is not generally appreciated that some of the younger members of the force to which the system applies will qualify for retirement and for the benefits promised only twenty, thirty or forty years after the establishment of the system and may live thirty or forty years after retirement and thus draw their benefits as many as sixty or seventy years hence. It is necessary, therefore, that plans for the financing of the system look ahead some sixty or seventy years into the future. Moreover, it is precisely in the remote future that the greatest difficulties in meeting the maturing pension obligations present themselves. The annual pension payments are very small in the beginning, but grow from year to year at an accelerating rate and become exceedingly heavy in the future.

To facilitate an understanding of the proportions to which maturing pension claims may grow, it is advisable to consider first the case of a single teacher retiring under provisions frequently found in existing systems.

A woman teacher enters the service at the age of 25 years and remains at her post for a period of 30 years. Then she retires at the age of 55 years on a pension of $450, or one-

half of her active salary of $900 per annum. According to a recent investigation of the mortality experience among teachers, made by the Commission on Pensions of the city of New York, a woman teacher retiring on demand at the age of 55, unless disabled by accident or disease, has a life expectancy of 19.78 years.[1] Assuming that she lives 19.78 years after retirement, she will draw in pensions a total of $8,901. If she received a uniform rate of salary of $900 during the 30 years of service, her total active salary would have amounted to $27,000. Her total pension payments of $8,901.00 would require, therefore, a total outlay of about 33 per cent of her active salary and a relatively larger percentage if she had started with a small salary and gradually been promoted to the $900 she received at the time of retirement.

If every teacher in a given service were to retire under the conditions specified above, the pension payments of the entire system would eventually amount to 33 per cent or more of the total pay-roll since the conditions applicable to one unit would naturally obtain where there is a collection of the same units. If all were to retire after twenty-five or twenty years and some, in case of disability even after a shorter period, and if the dependents of a member were to receive a pension, the pension payments would form a still greater proportion of the active compensation. But all do not retire. Many resign, or are dismissed or die before retirement and forfeit for themselves and for their dependents either all or part of their corresponding benefits. Furthermore, not all who have completed the minimum requirements of the system immediately avail themselves of retirement. Many continue in the service for a number of years and retire at a later age after which the average lifetime is shorter. Furthermore, the half-pay pension is sometimes computed on the average salary of the last five years—not on the frequently higher amount of salary of the last year—

[1]The expectation of life or "average lifetime" of teachers retiring at various ages is shown in Appendix 4, table 5.

and it is often limited by a certain maximum amount which it cannot exceed irrespective of the amount of salary. All these and other factors of similar nature tend to reduce the otherwise tremendous ratio of pension payments to salary payments. The ultimate pension claims will vary, therefore, in each system according to its provisions, its administration and the readiness with which teachers avail themselves of their right to claim pensions. In the old system of New York City, for instance, the annual pension payments were estimated ultimately to run to more than 20 per cent of the active pay-roll, if the old provisions were to be maintained. Many pension systems for teachers in this country grant benefits and operate under conditions similar to those which obtained in New York City. Their ultimate pension charge will be, therefore, in the neighborhood of 20 per cent of the pay-roll. In pension systems with more conservative provisions, such, for instance, as apply to teachers of the state of Maine or the city of Baltimore, this charge may reach only 15 per cent of the pay-roll. On the other hand, a system such as operates in Minnesota and allows its teachers the extremely liberal privilege of retirement on demand after 20 years of service may eventually be confronted with annually maturing pension claims running well above 20 per cent of the pay-rolls.

A misleading feature of the financial workings of a pension system is the somewhat slow development of maturing claims above referred to.

At the time of establishment of a pension system only a few teachers who have completed a long term of service or have reached an advanced age are placed on the retired list. The annual payments on their account are small in comparison with the pay-roll of the active service. There are several reasons for this. In the first place those eligible or about eligible to retire are the survivors of a comparatively small working force of twenty, thirty or forty years ago. In the second place a number of more or less old teachers have left the service dur-

ing the years preceding the establishment of the system who would have continued in the service or would have retired on a pension had the system been then in operation, and would have eventually qualified for the pension. Finally, the old teachers do not avail themselves of retirement as eagerly in the beginning of the operation of the system as they do when the system is in full swing. Neither do the school authorities force them out of the service as freely in the beginning as they do when the retirement system has taken deeper roots. Thus, many superannuated or disabled teachers remain on the active pay-roll drawing full salary just as they did when there was no pension system.

In the fourth place, the retired list in the beginning contains the survivors of the pensioners retired during the preceding year or few years only, whereas when normal operation has been reached it contains the survivors of the pensioners retired during the preceding thirty or forty years.

With each succeeding year the number of annual additions to the pension list necessarily increases, reflecting the growth of the active personnel of years ago, the lesser rate of resignation or dismissal among the older teachers and the greater readiness of the latter to retire or of the school authorities to force their retirement. Each year the number of additions to the pension list exceeds the number of terminations of pensions through death. Frequently in the beginning the proportion is ten additions to the list to one termination, and the resulting annual increase in the number of pensioners is as much or even greater than 90 per cent, whereas the normal annual increase in the population of the community or the school personnel, which support the system, is only 3, 4 or 5 per cent. Not until sixty or seventy years have elapsed does the margin between the new crop of pensioners and the deaths among the old become normal, since, as already pointed out, it takes about that much time for the entire force to which the system originally applied to be replaced by a new generation and for the abnormal conditions

described to terminate. Unless in the meantime new factors of abnormal growth have appeared, the pension roll will, from then on, accurately reflect the growth of the active personnel and pay-roll and proceed at the same rate as the latter. Then only is reached that period or level of operation of the system which is known in pension terminology as "normal."

The increase in the pension roll and in the percentage ratio to the pay-roll is often accelerated and the long period for reaching "normal level" is postponed by the liberalization of the original provisions of the system: the required length of service is shortened or retirement age lowered, the pension is increased, or additional disability or death benefits are introduced. While all such changes increase the cost of the system, they naturally involve only small immediate disbursements and show their full financial effect only in the distant future. It is for this reason that the annual pension disbursements of some pension systems abroad, which are more than a hundred years old, still continue to grow at a more rapid rate than the pay-roll.

The following examples of tremendous growth of pension disbursements as compared with the growth of the pay-roll may be cited. These examples are taken from pension systems in other branches of service than teachers, as the teachers' pension systems are of comparatively recent origin:

The London Metropolitan Police Pension Fund started 75 years ago (in 1844) with annual disbursements of about 8 per cent of salaries. Its disbursements now equal about 30 per cent of the pay-roll.

The Paris Police Pension Fund, started about a hundred years ago with a small pension roll, developed one which in 1909 amounted to 26.4 per cent of the pay-roll and is now nearing 30 per cent.

The National Civil Service of France has a pension roll which amounted to about 17 per cent of the pay-roll in 1912 and is now running closer and closer to 20 per cent.

In the British Civil Service the proportion between the pen-

sion roll and the pay-roll varies in different departments: in the Local Government Board it reached 17.8 per cent twenty-five years ago; in the Prison Department it amounted to 25 per cent in 1903; in the Treasury Department to 29 per cent in the same year, and in the Customs to 30.6 per cent.

In the Civil Service of Austria the ratio of pension roll to the pay-roll reached 33 per cent in 1910. Only a small part, about one-tenth, of this tremendous pension roll was covered from the contributions of the employees. The state was required to appropriate annually for civil service pensions an amount equal to about 30 per cent of the aggregate salaries.

Cost as Related to Method of Financing System. Viewed purely as a matter of mathematics, it may of course correctly be said that the cost of paying a given benefit, payable at a given time, is absolutely fixed, regardless of the method employed for financing the payment when it falls due. But from the standpoint of the practical operation of a pension system, it is a matter of prime importance to what extent the money required for the payment of benefits is raised at the time the liability for the payment is first assumed and during the period when it is maturing, and to what extent, on the other hand, the raising of the money is delayed until the liability actually matures. To the extent that a system is financed on the first-mentioned plan, it is said to operate on the "reserve" basis; to the extent that it is financed on the latter plan, it is said to operate on the "cash disbursement" basis. It needs no argument here that only in the "reserve" method of financing a pension fund are security and fairness to be had.

The cardinal principle of a system operating on the "reserve" basis is that increases in future pension payments are anticipated and taken care of before they mature. Each teacher is considered a definite obligation against the system from the day he enters the service. A "reserve" fund is established and built up by means of setting aside for each

teacher, each year during his service, the necessary amounts properly calculated and usually expressed in terms of percentage of salary. These amounts, which are secured through assessments on salaries or appropriations from public funds, or through combined contributions of the teachers and of the government, are accumulated at interest. When a teacher retires, the "reserve" accumulated in this manner on his behalf is adequate to pay his pension for the probable duration of his life after retirement. In the majority of pension systems, teachers forfeit all in the event of death, or part of the claim for a proportionate pension if they leave the service before becoming eligible to retirement. If such systems are operated on the "reserve" method, the saving to be derived from such lapses is calculated in advance and utilized for the reduction of the required rates of contribution.

The main advantage of operating a pension system on the "reserve" basis lies in the fact that each generation pays currently its own obligations. A proportionate part of the future pension requirements is set aside each year, and, if calculated properly, the pension scheme under such conditions is solvent at all times. Hardly less important is the fact that a clear understanding of the pension cost is secured by the definite and constant relationship which each year's contribution to the pension fund bears to the same year's expenditure for active services. Having been accepted as reasonable by all concerned, the possibility of arbitrary discontinuance or restriction of the scheme and consequent disappointment of prospective beneficiaries is avoided.

Actuarial Determination of Cost. The determination of the probable cost of the benefits obviously involves a computation of the probable mortality and disability of the present and future members of the fund. Such computations can be made accurately only by a trained and experienced actuary. In determining the probable income of the fund, too, actuarial methods may be necessary. It is to the failure of teachers' pension funds in this country to avail themselves of expert

actuarial advice, particularly in connection with the cost of benefits, that the unsound if not insolvent condition now general among them is due.

It is not the purpose of the present volume to discuss the detailed actuarial questions involved in the determination of the costs of the several benefits in question. It will be of value, however, to point out the principal elements and considerations which must be taken into account in computing the major probabilities of the cost of a pension system.

In attempting to determine the probable cost of the benefits to be provided, the actuary's first task is to analyze carefully the personnel records of the service. He must then measure the various forces which bear on the cost of pensions, and express them in terms of rates so that they may be used in calculations. An approximate idea of the magnitude of the actuary's preliminary work may be formed by examining the following list of rates which he would have to prepare from the experience of the service itself, or adopt from elsewhere in connection with the cost calculations of a typical pension system for teachers:

1. Rate of withdrawal from service because of resignation.
2. Rate of withdrawal from service because of dismissal.
3. Rate of mortality in active service.
4. Rate of salary increases in active service.
5. Rate of retirement because of superannuation.
6. Rate of retirement because of disability.
7. Rate of mortality after retirement because of superannuation.
8. Rate of mortality after retirement because of disability.

Having ascertained these rates, the actuary uses the proper rate of interest which may be earned on invested accumulations and calculates the contributions toward the reserve which are required to support the proposed benefits. Under the "reserve" method the compound interest factor enters to reduce the apparent cost of pensions to more than one-half of the apparent cost under the "cash disbursement" plan. All

other conditions being equal, the same amounts are actually paid out in benefits under both plans. The pension cost, however, is measured under the "reserve" plan by the percentage of the pay-roll needed to be set aside currently to secure *future* pensions; whereas such cost, under the "cash disbursement" plan, is measured by the percentage which the *current* pension payments form of the annual pay-roll. The first is a *constant factor* while the second is a *changing and steadily increasing factor.*[1]

To facilitate an appreciation of the cost-reducing effect of the interest factor in pension calculations, an illustrative retirement case may be used. A woman teacher retires at the age of 55 years on a pension of $450, lives 19.78 years thereafter—the average life time of a woman pensioner of her age—and draws a total of $8,901.00 ($450 x 19.78) in pensions. Under the "reserve" method of providing pension payments, only $5,773.50 ($450 x 12.83)[2] need to be on hand at the date of her retirement, which sum, together with interest accumulations at 4 per cent ($3,127.50), would be sufficient to pay the annual instalments of $450, totaling about $8,901.00.[1]

Going back a step further, the same interest-reducing effect of the reserve system is reflected in the amount of the annual or other periodical contributions required during the period of active service to insure the required amount being on hand at the time of retirement. Thus, in the case just cited, it is necessary, as stated, to have in the reserve at the time of retirement, $5,773.50. Yet all that is required to secure this

[1]This definition of the difference between the two methods, which has been adopted in the reports of the Carnegie Foundation (Bulletin 9) and the Illinois Pension Laws Commission, originally appeared in the report of the N. Y. Bureau of Municipal Research on the Police Pension Fund of the City of New York (1913), and the Report of the New York (City) Commission on Pensions on the Teachers' Retirement Fund (1915).

[2]Under the "reserve" method, the amount needed to be in hand for a beneficiary of a given age at the date of retirement to pay a pension of one dollar during life time is first calculated. This amount is called an "annuity value." For women teachers of New York City retiring at age 55 on a service pension, it was determined to be $12.83. See Appendix 4, table 3.

reserve is an annual contribution of about $98.98 for each of the 30 years of the pensioner's active service—a total of $2,969.40. The difference—$2,804.10—would be made up by the interest, compounded at 4 per cent. If it be assumed that the teacher receives a uniform salary of $900 during her entire service, the annual contribution of $98.98 would amount to about 11 per cent of her salary. In the case under discussion, therefore, the interest factor reduces the cost of the pension from 33 per cent under the cash disbursement system, to 11 per cent under the reserve method.

The Problem of Accrued Liabilities. "Accrued liabilities" are a rock upon which many a teachers' pension system has split. System after system has been established with a rate of contribution based upon the minimum period of service required for a pension, without it being appreciated that only those entering the service after the adoption of the system would contribute to it for the whole of that period.

In applying their benefit provisions to the teachers in service at the time of establishment of the system, who have been in the service for varying numbers of years prior to the establishment of the fund, all the retirement funds allow full credit and pay benefits for such previous services, although no contributions were then made and no fund was then in existence. The greatest difficulty of course presents itself in the case of the older teachers, who have a long period of service to their credit, and who apply for a pension from the fund immediately or a short time after they have joined, and in whose cases the fund must be able to make immediate payments. If we take the case of an old teacher, who has 30 years of prior service to his credit and would retire five years after the establishment of the system on a pension of half-pay, we find that a contribution made for five years at the rate of 15 per cent of salary will produce only approximately a seventh of the cost of his benefit. Part of the remainder may be supplied from the forfeited contributions of

other members, if the system is based on lapses, but the bulk of it represents a deficiency.

With the younger teachers the problem is less difficult. The younger they are the shorter their term of prior service and the longer they must contribute in the future before applying for retirement and drawing a pension.

Suppose an actuarial investigation shows that 2,000 out of 8,000 "present members" of the system would, at some time or other, apply for the pension. Each of the 2,000 would have some period of prior service to his credit and represent a certain deficiency on that account. If the average deficiency is estimated, say, at $2,500 for each prospective pensioner, the total deficiency on this account, or "accrued liability" as it is frequently termed, would amount to $5,000,000.

The majority of the retirement funds in the United States have been established without sufficient calculation of the cost of the "accrued" liabilities which they have thus assumed. Only a slight difference or no difference at all is made between the new entrants and the members already in the service at the establishment of the system.

The accrued liabilities begin to mature immediately after the establishment of the systems. Each year a new proportion of these "accrued liabilities" is presented for payment. And the payments from the fund on this account constantly accelerate during the first thirty years or more of its operation. The persons responsible for the establishment of the unscientific systems seldom realize the fact that since the fund accepts the liabilities accrued from a period when it was not yet in operation but receives no equivalent assets from this period, it starts with an actuarial deficiency. Outside of the payment of small arrears, which practically have no effect on the problem, they have taken no steps to offset this deficiency. The method of these systems is to ignore the initial deficiency and to shift it upon the future, from which they borrow without repaying. This procedure has brought many systems to grief.

No estimates of their "accrued liabilities" were made by these systems at the time of their establishment. The immense proportions of these liabilities remained unknown. All these systems in providing that the benefits in respect to prior services should be paid from the current revenues of the fund have prepared the way for insolvency both with regard to accrued liabilities and the liabilities on account of subsequent services.

No attempt has ever been made in these systems to ascertain how long they will be able to pay the "accrued liabilities" from their current revenues. But they proceed as though they expect to be able to do so indefinitely. They pay as long as they have available cash and give no thought to the future. They did not realize at the time of their establishment that these payments would increase each year and reach tremendous amounts far in excess of their current revenues.

During the first few years they are encouraged in their supposition. Few retirements are made and the payments are inconsiderable. They do not realize that the average teacher lives from twelve to twenty years (according to age and sex, as shown in Appendix 5 after retirement, and that it will take many years before the new payments accruing each year on account of the past will be equaled by terminations. They fail to consider that until this climax is reached the payments will increase from year to year and by the time they have begun to decline the payments due the new entrants will then have grown considerably, and they do not foresee that it will take no less than sixty or seventy years or even longer before the last of the old entrants will die and the final portion of "accrued liabilities" thereby be discharged.

With each year the disbursements which increase on account of the maturing "accrued liabilities" require a greater portion of the current revenues. With each year a smaller balance goes to the fund and the interest earned is, therefore, relatively smaller. Presently the disbursements exceed the

revenues and draw upon the balance of the fund which then becomes bankrupt. The pensions already granted are reduced and no new pensions are allowed. This usually happens before the disbursements on account of past services have reached their climax. The bankrupt fund still has on hand the greater proportion of the "accrued liabilities" undischarged.

Discussion of the methods which should be employed for meeting the problem of accrued liabilities is reserved for a subsequent chapter (Chapter VIII).

Inadequacy of Contributions in Existing Systems. Despite the fact that the cost-reducing effect of compound interest is greater than is commonly appreciated by the framers of pension systems, the rates of contribution fixed by them have almost invariably been inadequate to meet the liabilities incurred. All the existing systems, except those of Massachusetts, New York City, Pennsylvania and Connecticut, were established without estimates of the cost of benefits and with revenues which were inadequate to assure their permanent operation.

In eight of the twenty-four systems selected for study the revenue from the contributions of the teachers and the government amounts to only 2 per cent of salaries or even less. In five systems the revenue from contributions amounts to more than 2 per cent of salaries but less than 3 per cent. In Wisconsin about 10,000 teachers are assessed 1 per cent and only 1,400 teachers 2 per cent, so that the total contributions of teachers, amounting to $64,000, are slightly more than 1 per cent; the state contributed from the tax $66,000 in 1916, or also slightly more than 1 per cent. In the systems of California, Illinois, Minnesota and Denver the exact ratio between the amount of revenue and pay-roll is not available but it can be safely estimated as not exceeding 3 per cent. In the systems of Chicago and Cleveland the revenue is between

3 per cent and 4 per cent. In Chicago the teachers and the city contribute about 1.4 per cent each or about 2.8 per cent together, but the city may under the statute contribute twice as much as the teachers.

The systems of Massachusetts, New York City, Pennsylvania and Connecticut are the only systems which have a revenue bearing a greater ratio to salaries than 4 per cent. Their revenues range from 7 per cent to 13 per cent as shown below.

The inadequacy of contributions in the majority of the existing systems to provide the benefits promised may be ascertained by comparing them with the contributions and benefits of systems which have made reliable estimates of cost. The table on the following page presents the contributions and benefits of the four scientifically constructed systems.

In the table on page 111 the attempt is made to compare the provisions of the Massachusetts system with the other systems of the country (except the three other scientifically constructed systems already mentioned). Of the two funds of which the Massachusetts system consists, which are financially independent and which pay different benefits, the annuity fund is better suited for a comparison, since it is based on more reliable estimates and is more widely differentiated from the other systems than is the pension fund.

The amount of contributions is expressed differently in every fund. In some funds the annual contribution which each member pays is expressed in dollars and cents; in others as a percentage of salary; in some of the systems the rate is uniform throughout the period, whereas in others it varies according to length of service. A further complication arises from the fact that in a number of systems the government contributes annually a certain subsidy expressed in thousands of dollars. These complications make an accurate comparison impossible, but a general comparison may be made by reducing the various forms of contributions to a uniform basis. In the

CONTRIBUTIONS AND BENEFITS OF THE SCIENTIFICALLY CONSTRUCTED SYSTEMS OF MASSACHUSETTS, CONNECTICUT, NEW YORK CITY AND PENNSYLVANIA

Systems	Contributions		Amount of Benefit	Retirement Conditions	
	By Teachers	By State or City		Age	Service
Massachusetts..	5 per cent of salary	Amount necessary for the payment of "pensions" of the ensuing year	"Annuity" according to age and contributions; "pension" of the same amount; total benefit about one-half salary	60	None
Connecticut....	do.	do.	do.	60 and 15 — or 35	
New York City.	According to age, between 3 per cent and 8 per cent of salary	$1,000,000 annually to a special reserve, plus appropriation for pensions currently maturing, plus contribution for new entrants according to their age—at present time a total contribution over 8 per cent of salary	Annuity according to age and contributions, pension of one-fourth salary plus additional one-thirty-fifth of the quarter pay for each year of prior service; total benefit about one-half salary	65 or 35	
Pennsylvania...	According to age, between 3⅓ per cent of salary and 6½ per cent of salary	Contributions for new entrants on a reserve basis; plus contribution of 5.6 per cent of salary to a special reserve—at present time total contribution over 8 per cent of salary	Annuity according to age and contributions, plus "pension" of total benefit about one-half of salary	62	None

table on the following page they are expressed as a percentage of salaries of the teachers in the respective systems.

The result given under the first head shows that while in the Massachusetts Annuity Fund the contributions amount to 5 per cent of salaries, in other funds they total only 2 per cent to 3 per cent. Furthermore, in Massachusetts the entire 5 per cent contribution is deposited in the fund, in the other systems only the unexpended balance of the contribution is deposited. The expenditures in these systems, as shown in the previous chapters, increase rapidly, the portion which goes to the fund becomes smaller each year until finally all the contributions are expended and no contributions are left to be carried to the fund.[1] Thirdly, the difference in contributions is emphasized on account of the compound interest factor. The large contributions in Massachusetts earn interest on the entire amount. It increases on that account alone by more than one-half within thirty years. On the other hand the small contribution in other systems draws interest only on the portion which is deposited and which decreases from year to year. The fourth point shows that whereas in Massachusetts, in the case of the average member, thirty contributions must be made, in other systems frequently only twenty-five are required.

The second half of the table shows the extent to which the benefits paid from the other funds are higher than those paid from the Massachusetts Annuity Fund. Thus, under the fifth point, the Massachusetts fund pays only benefits with

[1]The rapid decrease of the portion deposited each year is caused by payments of benefits for services rendered previous to the fund's establishment. The following chart which relates to the Philadelphia fund illustrates this decrease.

Year of Operation	Portion of the Annual Contribution Deposited in the Fund
1st	91.5 per cent
3d	64.5 "
5th	48.4 "
7th	41.3 "
9th	36.4 "

A number of funds have already reached the point where the entire annual contribution has to be expended.

A SUMMARY COMPARISON BETWEEN THE MASSACHUSETTS SYSTEM AND OTHER SYSTEMS (EXCEPT NEW YORK CITY, PENNSYLVANIA AND CONNECTICUT)

	Systems Other Than Massachusetts (except New York City, Pennsylvania and Connecticut)	MASSACHUSETTS SYSTEM	
		Annuity Fund (on a reserve basis)	Pension Fund (on a cash disbursement basis)
I—CONTRIBUTIONS			
1. The amount of the total annual contribution from the teachers and government expressed as percentage of salary	2 per cent to 3 per cent of salary	5 per cent of salary	Increasing percentage
2. Is the entire contribution deposited in the fund or only part?	Part	All	None
3. Is interest earned on the entire contribution or only on a part?	On the deposited part	On all	None
4. How many contributions are received on account of an individual teacher before he retires?	25 or 30	Until age 60, on the average about 30 contributions	None before retirement, payments by the state begin from the date of retirement
II—BENEFITS			
5. Are benefits paid for both previous and subsequent services?	Previous and subsequent	Only subsequent	Previous and subsequent
6. What is the average amount of benefit?	½ salary[1]	Less than ¼ salary at present, ¼ salary in the future	More than ¼ salary at present, ¼ salary in the future
7. How early can the benefit be granted?	In most of the systems at any age provided served 25 or 30 years	Not before age 60	Not before age 60
8. What is the average number of annual payments which the fund must make to a retired teacher before he dies?	If retired at age 50 or later: to women 23 payments or less; to men 16½ payments or less	If retired at age 60 or later: to women 16½ payments or less; to men 12.7 payments or less	

[1] In systems which provide the same amount of benefits for all salaries, it usually equals about one-half of the average salary of all teachers.

regard to services rendered subsequent to the establishment of the fund; all the other systems pay benefits with regard to both previous and subsequent service. The cost which these funds must meet on account of previous service, as explained in the preceding section, is tremendous.

The sixth head shows the average benefit paid from the annuity fund in Massachusetts to be less than one-half that paid by other funds. It is very low during the beginning of the fund's operation but gradually increases until it reaches, after approximately thirty years, about one-fourth of the salary, at which point it remains. In sharp contrast the average benefit in other funds amounts to one-half salary immediately after the establishment of the fund.

Again, under point seven, it is shown that while in Massachusetts the benefit cannot be paid before 60 years of age, in the other systems it can be paid at any time, provided the teacher has served for 25 years. The significance of the retirement condition in these sytems is made clear under point eight. The number of payments which the fund has to make in case of early retirement is considerably greater than in the case of retirement at a late age; a woman teacher on the average receives her pension during twenty-three years if retired at age 50, during sixteen and a half years if retired at age 60, and during less than thirteen and a half years if retired at age 65. The cost of benefits in the systems allowing early retirement is, therefore, considerably higher than the cost of benefits in the Massachusetts Annuity Fund, which provides them only after age 60.

All these points prove that the funds which receive lower contributions and earn little interest are providing far more costly benefits than the fund which receives twice as large contributions and earns considerable interest. It is evident that the cost of retirement benefits has either been considerably overestimated in the Massachusetts fund or grossly underestimated in other funds. Since the Massachusetts rates are

based upon mortality investigations and minute actuarial calculations, while others are not, the conclusion must be made that the latter have committed the grave error of providing utterly inadequate revenues.

The conclusion as to the inadequacy of contributions in the existing systems is confirmed by the experience of the old fund of New York City, and of the funds of Boston, Virginia and others in which the insufficiency of revenues has necessitated either a reduction of benefits, a discontinuance of granting new retirements, an increase of contributions, or a fundamental reorganization of the entire system. In some of these systems the insufficiency appeared after two or three years of operation; in others only after fifteen or even twenty years. Their experience tends to show that with the present rate of contributions none of the existing funds could operate for more than about thirty years without exhausting their revenues, and that in most of these systems the revenues would be exhausted after a shorter period.

Estimating the Liabilities of a Going System. In the reorganization of an unscientific system and the transition to a scientific system there is presented the special problem of determining the liabilities against the fund already incurred. This may conveniently be done by considering separately the liabilities incurred on behalf of persons already on the retired list and those incurred on behalf of the persons still in active service. At the time of reorganization of the New York City fund the liabilities on account of the approximately 1,500 pensions then outstanding amounted in round figures to $10,840,000.[1] A special contribution was provided for their liquidation.

Next the accrued liabilities on account of the prior services of the active members are valued. Their amount depends on the rate of benefits which are allowed for prior services.

[1]It consisted of two elements: liability for service pensions amounting to $8,886,500 and liabilities for disability pensions aggregating $1,953,600.

A special method is provided for their liquidation. They are not allowed to drain the funds from which other liabilities should be discharged. The new system of New York City provided a pension of one one-hundred-fortieth of the average salary of the last ten years for each year of prior service and assumed thereunder a liability of almost $16,655,000, about four-fifths of which was for superannuation benefits and one-fifth for disability.[1] It made a provision for their discharge which assured the solvency of the fund.

The liabilities on account of pension benefits for subsequent services of "present members" represent the third important item in the cost of a sound system. The scientific systems in this country have divided this benefit into two parts: one called "pension" and supported by the contributions of the government, and the other called "annuity" and supported by the teachers themselves. The liability of the government under the "pension" part of the benefits is shown separately from the liability assumed by the teachers toward their own annuity. The "pension" liability may consist of several elements according to the benefits which are provided. In the new system of New York City this liability was estimated at about $36,000,000 and its elements were as follows: superannuation pensions for subsequent services, $28,404,000; disability pensions for subsequent services, $7,176,000; death benefits of six months salary to dependents of present teachers who die after becoming eligible for a pension, $356,000. To cover the cost of these benefits and the liabilities involved thereunder, a special contribution was devised.

An actuarial balance sheet does not show the liabilities which will appear on account of the new (or future) entrants to the service. However, the cost of their benefits, as already stated, is carefully calculated and a provision is made for adequate contributions to be made currently by them and on their behalf into a reserve fund during their active service.

[1] $13,405,700 for superannuation and $3,249,200 for disability.

These contributions are not used for the discharge of any other except their own liabilities. Thus, in admitting new members and assuming new liabilities the system at the same time receives an equivalent item of new assets. Its continued solvency is thus assured.

Certain other liabilities may be involved in a system, such as those connected with the cost of administration of the system, the maintenance of a certain rate of interest, and the guarantee of the solvency of the system. Their nature is described in the chapter on the contributions of the government, in which the various forms of contributions and methods of covering the different liabilities here indicated are discussed.

Cost and Liabilities Involved under Different Benefits. A considerable difference in the cost of benefits and the amount of liabilities of the system may result from an apparently slight change in the nature, amount and conditions of benefits to be granted. Great caution must, therefore, be exercised in this matter. The following may serve as an illustration. The old fund of New York City provided after 30 years of service a pension of one-half of the final salary of the teacher. The liability under this benefit to teachers in the service on June 30, 1914, was estimated at $49,643,000. The city proposed to raise the requirements and reduce the pension as follows: retirement at age 65 on a pension of one-eightieth of the average salary of last ten years for each year of service. The liability under this benefit was estimated to be only $40,862,000. A cut of $9,000,000 would have been effected had this change of benefit been adopted. As the teachers objected to such provision, a compromise scheme was suggested according to which retirement would take place after 35 years of service on a pension of one-seventieth of the average salary of the last ten years for each year of service. This benefit involved a liability of $46,806,000, i. e., about three millions less than the cost of the benefit then provided,

but six millions more than the benefit proposed by the city would have cost.

In deciding upon the nature of benefits to be provided and the contingencies to be covered, the framers of a system must have before them estimates of the cost and liabilities involved under various benefits, because otherwise they may provide such costly superannuation benefits as will leave no resources for making adequate provision against other contingencies. A better proportion between the provisions against different contingencies may be established if the cost of the different provisions is known. It is interesting to compare the old system in New York with that proposed in 1916 with reference to the distribution of their cost as between different benefits; for while the total costs of these two systems were about equal (approximately $70,000,000), the distribution of the costs was different. The old system provided exceedingly high and costly superannuation and disability benefits and at the same time provided no withdrawal benefits whatsoever in case of resignation or dismissal, or to the dependents in case of death. The proposed plan reduced the superannuation and disability benefits to a more reasonable rate and thus effected a saving of about $5,000,000, which it applied to the providing of withdrawal benefits for the cases of resignation, dismissal or death, i. e., of benefits which are of value especially to the younger teachers.

CHAPTER VII

THE DIVISION OF COST BETWEEN GOVERNMENT AND TEACHERS

So long as the opinion prevails that a contribution of 1 per cent or 2 per cent is sufficient to provide retirement benefits, the question as to who shall pay it is comparatively unimportant, because the teachers and the local or state government are not opposed to contributing it. Sometimes the teacher assumes the payment of such contribution without the assistance of the government, at other times the government undertakes to pay it alone. At most times, however, the teachers and the government divide the small contribution between themselves.

The "easy-going" attitude of the teachers and the government towards contributing changes, however, as soon as the high cost of retirement systems is realized and higher contributions required. When a deficiency in one of these funds appears, the teachers demand that the government shall cover the deficiency and contribute at a higher rate, whereas the government seeks to increase the contributions of the teachers. When a reliable investigation of the cost of a sound retirement system discloses the fact that it requires a contribution in excess of 10 per cent of salaries (including the deficiency), the question of division of that cost becomes of paramount importance. The cost is too great to be borne either by the teachers alone or by the government alone.

After some consideration it becomes apparent that the cost must be divided between the two parties. Here the difficulties begin, for each party seeks to assume a smaller portion

of the cost. The teachers frequently may agree to contribute an additional 1 or possibly 2 per cent of salaries, but they object to contributing more. On the other hand, the government may agree to relieve the teachers of the payment of the entire or the major part of the deficiency with respect to previous services which often amounts to millions of dollars,[1] but it frequently refuses to assume any considerable part of the cost with respect to future services.

The discussion of specific terms of the division of cost gains a great deal in clearness, and an agreement is sooner effected if the philosophy of each of the methods or systems mentioned is understood. In order to facilitate such an understanding a brief discussion of the philosophy of each of these methods is herewith presented.

The Wholly Contributory System. Some teachers prefer the wholly contributory system because it assures them greater control over their fund. There remains, however, the opposing argument that it imposes a burden which the teachers are not able to bear. This argument bears with different force upon those who are in service at the time of the establishment of the system—the so-called "present teachers," —and those who enter later—the "future (or new) entrants." Upon the former the high cost is most keenly felt, for if contributions be determined upon a proper actuarial basis, that is, graduated according to age, the periodical sums to be paid by the older members are necessarily very large. Even in the case of the younger members it is necessary to exact sums in excess of 5 per cent of their salaries; whereas, in the case of the older teachers, this percentage must rise as high as 25 per cent or even 50 per cent; and, in the case of the very old teachers, the contributions would need to be actually more than 100 per cent of their current salaries.

As applied to new entrants the wholly contributory system

[1]The deficiency in the New York City fund was estimated in 1915 at $56,000,000.

is not so clearly impracticable and is indeed feasible, though there would still remain the necessity of graduating contributions according to the respective ages of the entrants. In practice, however, it is not practicable to establish a system to include only those persons who may thereafter join the teaching force, leaving the then existing force unprovided for, or to be taken care of by a system of government aid. The result would be that while the new entrants were meeting the entire expenses of the retirement systems, their colleagues would have their fund in part supplied from the public purse. This would be equitable only if the new entrants were in receipt of proportionately higher salaries. This device, however, has never been tried, the objections to it being clearly apparent.

In effect, then, it may be said that the wholly contributory system is impracticable.

The Non-Contributory System. The older as well as the younger teachers favor the non-contributory system, but for different reasons. The older teacher is greatly interested in retirement benefits from which he expects soon to benefit and which he regards as deferred payments for faithful public service. The younger teacher is not so much interested in the matter and desires to use his entire salary for his immediate needs or wants, and, if provision is to be made for pensions after superannuation, is, therefore, inclined to insist that it be provided by the government, and thus to join hands with the older teachers upon whom a contributory system would impose a very heavy burden.

The objections, however, to the wholly non-contributory system are several in number and of weight.

In the first place, it almost necessarily means a system over whose management and specific provisions the teachers themselves are given little or no control, for it is not to be expected that the government which bears its entire cost will be willing

to surrender its management and direction. The result from this is that those features are emphasized which the government, as the employer, deems of primary importance to the public service, as distinguished from those features which have immediate regard to the personal welfare of the teachers themselves. Thus, for example, under non-contributory systems, benefits at resignation or dismissal which are essential to the freedom of the teachers are not usually provided for, and the supervising authority is able to hold over the heads of his employees the threat of a forfeiture of all benefits in case of resignation or dismissal.

The further argument can be made against non-contributory systems that they eventually become contributory systems but in a disguised form, and one under which the burden is shifted to an inequitable degree upon the younger members. This change is brought about by the granting of an increasing number of gratuities with a result that, to meet their cost, salaries are lowered or at least prevented from being increased. The experience of the British Civil Service which has a non-contributory system supports this view.

Germany still maintains a non-contributory system for its teachers, but it is worthy of note that all of its systems of social insurance—for old age, sickness, invalidity, death, etc.—are founded upon the contributory principle.

Regarded from the standpoint of the government, the objection to the non-contributory system is of course that it makes a heavy demand upon the public purse.

In general, it may be said that when we view pension systems generally, at home as well as abroad, the tendency to abandon the non-contributory principle is clearly apparent. The objections to its use are too great to be successfully overcome.

The Joint or Partly Contributory System. Sound financial as well as social considerations support the principle

that the teachers and the government should unite in support of retirement systems. As earlier shown, the philosophy of all pension systems for public employees is founded upon the fact that there is a community of interest between the public, which is the employer, and the prospective beneficiaries, who are the employees. That is, the welfare of the latter makes it possible to build up a more efficient administrative force, to establish a better coöperation and maintain an improved esprit de corps. And, as experience shows, where the management of the system is divided between the government and the members of the system, more cordial and better working methods are maintained.

A clearer distinction between the question of wages and of pensions is also promoted. The contributions by the members of the system are not viewed by them as *pro tanto* reductions of their wages, nor are the pensions regarded by the government as gratuities upon its part. In other words, the pensions paid are seen to be partly personal savings and partly deferred payments for services rendered. As thus viewed, it becomes feasible to make adequate provision for their permanent payment. The funds can be drawn from a double source and the payments for their replenishment equitably apportioned.

In submitting the first reorganization scheme prepared by the New York City Commission on Pensions, Mr. Bruère, the Secretary of the Commission, wrote:

It would be easy to submit for the consideration of authorities and taxpayers generous pension plans which place the entire cost upon the city. It does not require much wisdom to appreciate the folly of such a course. Not only would the immediate cost be burdensome, but it would presently become so onerous that unquestionably benefits would be curtailed.

If it be to the interest of the city that provision be made for the retirement of superannuated employees, it is of greater interest to the employees themselves who are the beneficiaries of the retirement plan. But merely from self-interest, and without regard to questions of propriety and justice, employees should welcome any means which will ensure the

permanency of a plan established, and remove from the possibility of doubt their receipt of pensions when the time comes for them to claim them.

With these considerations in view the plan suggested in this report for reorganizing the teachers' retirement fund places equally upon the teachers and the city, with one qualification in favor of the teachers, later discussed, the cost of future benefits. The cost of these future pensions will be considerable if they are to be as adequate as they should be from the standpoint of efficiency and humanity.

In summary, then, we arrive at the following conclusions:

The wholly contributory system is financially impracticable and founded upon an inadequate pension philosophy, since it has regard only for the welfare of the pensioners to the exclusion of the social and administrative interests that are involved.

The non-contributory system also is financially impracticable; is inequitable as between the older and younger members; excludes the beneficent savings principle upon the part of the members; tends to disregard certain desirable forms of relief, and leads to autocratic methods of operation.

The joint contributory system is financially feasible; it can be so organized and operated as to distribute costs equitably as between the public and the members, and between the different groups of members; it provides the various kinds of benefits that are needed; it harmoniously combines social insurance with individual savings, and it makes possible joint management and cordial coöperation between the members and their administrative superiors.

The Division of Cost between Teachers and Government in Existing Systems. The table on the following page presents in summary form the chief facts relative to the division of cost between the teachers and the government in existing systems in this country.

DIVISION OF COST BETWEEN TEACHERS AND GOVERNMENT IN EXISTING SYSTEMS

WHOLLY CONTRIBUTORY SYSTEMS	Number of Teachers Covered	
Michigan	18,583	
New Orleans, La.	1,294	
Louisville, Ky.	883	
Total	20,760	
NON-CONTRIBUTORY SYSTEMS		
STATE SYSTEMS		
Maine	6,965	
Maryland	4,277	
New Hampshire	3,083	
Rhode Island	1,484	
Arizona	1,539	
Total Under State Systems		17,348
LOCAL SYSTEMS		
Pittsburgh, Pa.	2,405	
Denver, Colo.	1,095	
Atlanta, Ga.	795	
Charleston, S. C.	157	
Columbus, Ga.	113	
Brookline, Mass.	196	
Total Under Local Systems		4,761
Total		22,109

JOINT OR PARTLY CONTRIBUTORY SYSTEMS

With the exception of the foregoing systems, all the systems listed in Appendix 2 are of the joint or partly contributory type.

	Number of Systems			No. of Teachers Covered
RECAPITULATION	State	Local	Total	
Wholly contributory systems	1	2	3	20,760
Non-contributory systems...	5	6	11	22,109
Joint or partly contributory systems	16	64	80	289,685
	22	72	94	332,554

Special attention may be called to the systems in operation in Boston and the state of New Jersey. The teachers in each of these systems are eligible to retirement from two separate funds, one entirely supported by salary deductions, the other financed exclusively from public moneys. The combined operation of both funds is similar in effect to a single contributory system and has been treated as such in the fore-

going tabulation.[1] A similar situation exists in Rhode Island, where the teachers of Providence, Newport and Bristol may receive benefits from their local contributory funds and at the same time receive pensions from the non-contributory system of the state.

Out of the twenty-four systems selected for special study, only Michigan and New Orleans are of the wholly contributory type. Maine, Pittsburgh and Denver are non-contributory, whereas the other nineteen systems are of the joint or partly contributory type.

The joint contributory system of Massachusetts, adopted in 1913, is worthy of special note because of the high rate fixed for the contributing of the teachers—5 per cent. This rate, which is higher than the rate in any other system in this country, "seems to meet with the approval of practically all the members of the Retirement Association."[2] The state contributes to the teacher's retirement benefit an amount equal to that which his contributions purchase, and in addition assumes payment of all benefits for services rendered previous to the establishment of the fund (which constitute a deficiency), without requiring any back contributions on the part of the teachers. The state thus accepts its share of cost although on account of the latter payments that share will be larger than that of the teachers.

[1]The new system of New Jersey, which supersedes the two old systems, is of the joint contributory type.

[2]Massachusetts Teachers' Retirement Board, Bulletin No. 2, p. 6.

CHAPTER VIII

THE GOVERNMENT'S CONTRIBUTION

Determination having been made of the basis on which the cost of the pension system shall be divided between the government and the teachers, special questions as to amount and method of financing arise with respect to the contributions of both parties. To a consideration of these special problems the present and the succeeding chapters are devoted. In this chapter are considered the questions involved in determining the size and character of the government's contribution.

Various Elements Determining Amount of the Government's Contribution. Those who have had most experience in framing scientific pension systems make a careful distinction between the different kinds of obligations assumed by the government. Each of these types of obligation involves special features which must be given weight in determining the amount which the government shall set aside from year to year to meet these obligations as they mature. The government's contribution is therefore to be regarded as the composite of several different contributions, each of which is to be constructed in accordance with the nature and amount of the particular liability to the support of which it is applied. The elements constituting the contribution may be classified as follows:

1. Contribution supporting an already existing pension roll.
2. Contribution towards the pensions of present members for their prior services (accrued liabilities).
3. Contribution towards the pensions of present members for their subsequent services.
4. Contribution towards future pensions of new entrants.

5. Contribution towards administrative expenses.
6. Contribution towards the maintenance of a certain rate of interest and the guarantee of the solvency of the system.

Contribution Supporting an Already Existing Pension Roll. Where an old system is discontinued and a new system introduced in its place, the new system must take over the pension roll of the former and devise a special contribution from which the old pensions can be paid. The peculiar nature of the old pension roll is that it decreases from year to year as the old pensioners die. In New York City, on June 30, 1914, there were about 1,521 old pensioners and the annual pension roll aggregated about $1,185,000 and represented a total liability of about $11,600,000. During the following four years about 150 pensioners died and the annual pension roll on their account decreased to about $1,070,000.

Since the annual payments under this obligation decrease, there is no reason for providing a reserve against the future payments on that account. The contributions can, therefore, be made on a cash disbursement basis. Accordingly the laws of Massachusetts and New York City provide that the state or city authorities shall appropriate each year the amount necessary for the payment of the old pensions which are due that year.

Contribution towards Pensions to Present Members for Past Services. On the establishment of a pension system, as pointed out in a preceding chapter, the teachers already in the service, even those who have been in service so long as to make their retirement imminent, are invariably embraced in the benefits of the system without any previous provision having been made for the payment of those benefits. The problem which confronts the government in financing "the accrued liabilities" which are thus assumed—for obviously the teachers themselves cannot afford to make up any considerable part of the deficiency—has proved perhaps the knot-

tiest of all the problems involved in the establishment of teachers' pension systems.

The total amount which would have to be set aside to liquidate at once the "accrued liabilities" of the system at its inception usually approximates or exceeds the amount of the annual payroll of the active teaching force. Since it is impracticable to secure a fund of such proportions at the inauguration of the system, provisions become necessary for the amortization of the initial deficiency with compound interest accumulations on the unpaid balances. The entire deficiency, with interest, may be spread over a number of years, say sixty or seventy, during which period all teachers who were in the system at the time of its establishment would have left the service and those who had retired would have passed away. If such liquidation is made in instalments of equal amounts, then the annual charge during the first years is a heavier burden on the taxpayer than during subsequent years when the community has grown and is better able to stand a heavy financial burden. In order to adjust payments to the financial ability of taxpayers, the amortization of the deficiency may thus be arranged on an increasing scale. The "deficiency" contribution may be fixed as a percentage of the payroll of the active force which will result in larger instalments as the personnel and salaries increase. The time required to liquidate the initial deficiency will also be correspondingly shortened.

Up to a certain point the ascending scale of deficiency contributions exceeds the demands on the deficiency fund. Each year, as the present members retire, a portion of the accrued liabilities matures for payment. The payments are very small at first but rapidly grow from year to year. The peak of the load is reached perhaps only twenty-five or thirty years after the establishment of the system. Then the annual payments to present members on account of accrued liabilities will begin to decrease, though they will cease altogether per-

haps only some seventy years hence when the last of the present members dies.

Various methods for liquidating the "accrued liabilities" deficiency of a system have been devised in this country and abroad. In some systems the government contributes on a cash disbursement basis, in others the contribution is made on a partial reserve basis, and in the third a still further step is made in this direction as the government contributes on a full reserve basis.

One of the simplest methods is that adopted abroad by Scotland and by Massachusetts and Connecticut in this country. It unloads the "accrued liabilities" of the fund upon the taxes. The fund thus has no deficiency and starts with a clean slate. The state provides no special reserve for the discharge of the accrued liabilities, but pays them, as they mature, directly from the taxes. It appropriates each year an amount sufficient to pay the "prior service" pensions which are due that year. The disadvantage of this method lies in the fact that the load is, therefore, unequally distributed between the immediate and the more remote future. Furthermore, the aggregate amount contributed by the government during the entire period of sixty or seventy years, during which the accrued liabilities would be paid, is considerably larger than it would have been had it been made on a reserve basis and had it been earning interest.

Another method, adopted in London and considered but rejected in New York City, consists in paying to the fund each year only the interest on the deficiency. Thus, while the deficiency is not being discharged it is at least prevented from increasing. The disadvantage of this method lies in the perpetuation of the indebtedness of the government and the constant payment of interest.

A third method is adopted in New York City. The city discharges the accrued liabilities on a combined "cash disbursement" and "partial reserve" basis. It appropriates each

year the amount necessary to pay the "prior service" pensions which are due that year, and, furthermore, appropriates each year an additional amount with which it sets up a partial reserve against the future increases of payments on account of the "prior service" pensions. The partial reserve helps the government to carry the peak of the load in the proximate future and reduces the high appropriations on that account which would otherwise be necessary. A contribution towards a partial reserve presents, therefore, a distinct advantage.

The fourth method originated in Liverpool and was recommended by the New York City Pension Commission in 1916. It consists in discharging the deficiency by means of equal annual instalments over a period of sixty years. Each year the government pays into the fund the same amount of an "accrued liability" (or "deficiency") contribution. The advantage of this method is that each year's taxes carry the same load, and the interest on the "accrued liability" contribution considerably reduces the cost of discharging the deficiency.

Finally, a fifth method is that recently adopted in Pennsylvania. According to this method the "accrued liability contribution" is not of a fixed amount but a fixed percentage of the payroll. Naturally, the payroll grows as the community increases and, therefore, the amount of the deficiency contribution will increase at the same rate. The entire deficiency can thus be discharged, without much hardship, in a much shorter period than sixty years.

Contribution towards Pensions to Present Members on Account of Future Services. The liabilities to present members on account of their subsequent services may present a no less considerable item than the accrued liabilities. Thus, for example, at the reorganization of the New York City system they amounted to about $36,000,000 as against about $17,000,000 of accrued liabilities. The problem of meeting them is also a difficult one.

Like accrued liabilities, these liabilities mature only gradually. Only a few "subsequent service" pensions become payable at first, and the payments on that account are far smaller than those on account of "prior service" pensions. The pensions during the first year or two represent almost entirely "prior service" (i. e. an accrued liability) and almost no "subsequent service." With each further year the new pensioners have on the average one year more of subsequent service and one year less of prior service to their credit. The retirements granted fifteen or twenty years hence may represent on the average an equal amount of prior and subsequent services Thus, the payments on account of the latter follow close on the heels of thė maturing accrued liabilities. If the peak of the load of accrued liabilities is reached perhaps twenty-five years hence, the peak of the load on account of subsequent services will be reached perhaps fifteen or twenty years thereafter.

The form and to a certain extent the rate of the government contribution depends on the basis on which it is made. If it is made on a cash disbursement basis, as for example in Massachusetts and Connecticut, the rate of contribution is far below the normal cost of the benefits in the beginning but will be far above the normal cost some thirty or forty years hence, and the aggregate amount so contributed by the government on account of the present members during their lives will be far above the amount which it would have been called upon to contribute on a partial or full reserve basis. If the government contributes towards a partial reserve, as, for example, in New York City, besides discharging the maturing obligations on a cash disbursement basis, it will slightly increase its present light load but reduce its future heavy burden.

Of the various forms of contributions made on a full reserve basis the following two may be noted. Under one form, the government contributes on account of each member and during his entire service a certain percentage of his salary, that

percentage being fixed in accordance with his age; under the other form, the government contributes a certain constant percentage of the entire payroll for a certain period of years until the entire liability is liquidated. The advantage of the first form of contribution, which was proposed in 1916 in the reorganization plan of the New York City fund, lies in the fact that an individual reserve is created for every member and that the government contributes on his account just as long as he stays in the active service. The advantage claimed for the other form, which was adopted by Pennsylvania, is that it is simple, that it bears the same ratio each year to the entire payroll instead of a decreasing ratio as does the other form of contribution, and that the exact period during which the liability will be liquidated depends on the growth of the payroll.

If the same method of contributing is adopted for discharging liabilities towards present members for both past and future services, then the contributions on that account may be consolidated into one. Thus, for example, Massachusetts and Connecticut appropriate each year an amount sufficient to pay all pensions that are due that year both on account of prior and subsequent services; New York City appropriates each year one million dollars which is applied to the creation of a partial reserve against both accrued liabilities and subsequent services; and Pennsylvania contributes semi-annually 2.8 per cent of the annual payroll (i. e. about 5.6 per cent of salary annually) with a view to building up a full reserve against the total liability towards its present members.

On the other hand, the systems applying different methods to the discharge of the two kinds of liability, require of the government two kinds of contributions: in the Liverpool system, the first has been called an "accrued liability" contribution, whereas the second has been termed a "current" or "normal" contribution.

The forms of "partial" and "full reserve" contributions here described represent the first experimental steps along lines of equitable distribution of the "deficiency" and "normal" obligations towards the "present members" of a scientifically constructed system. New forms of partial and full reserve contributions will undoubtedly be introduced in the future. They will further develop the fundamental principle that the contribution should be so devised as to liquidate the particular obligation in the most economical way to the state or city employer, and at the same time to assure the greatest solvency and permanency of the system.

Contribution towards Pension Benefits of New Entrants. The liabilities on account of pension benefits to new entrants are of an increasing nature. This may be illustrated by the following simple case. At the time of establishment of the system there are no new entrants and the liability on their account will be nil. If a thousand teachers enter the service each year and if the "pension" liability for each new entrant averages $1,000, the total "pension" liability on their account will amount to $1,000,000 at the end of the first year, $2,000,000 at the end of the second year, $3,000,000 on the third year, and it thus will grow from year to year. Perhaps none of the new entrants will be placed on the "pension" roll for the first ten or fifteen years and the first payments will be very small. However, once the payments begin they will grow at an accelerating rate. Provision should, therefore, be made in advance against the future increases in the liabilities and the annual "pension" payments to new entrants. The contribution supporting their future "pension" benefits should be made on a reserve basis: each year from the time of appointment of the new entrant the government must set aside such a percentage of salary as will be sufficient, together with interest, to accumulate a reserve which will provide the "pension" benefits. It is the most economical contribution for the employer, for it involves a comparatively small imme-

diate expense, because the new entrants are not numerous in the beginning, they have no prior services and do not present a deficiency as do the other members, and they are young and require, therefore, only a very low rate of contributions. It is the most desirable form of contribution from the point of view of the new entrants, because a "reserve" is being set up by the government which serves as a guarantee that their remote benefits will be paid. Thus, more than any other contribution it assures the permanency of the system.

The states of Massachusetts and Connecticut make no advance provision whatsoever for new entrants except to pay their "pension" benefits as they mature. The time when the first contribution on account of new entrants will be made is practically postponed twenty years. It will then begin on a cash disbursement basis with the result that the annual payments on that account will thereafter rapidly increase from year to year and the permanent operation of the system may be endangered.

The city of New York and the state of Pennsylvania contribute on a reserve basis with respect to new entrants. The contribution is fixed at such a percentage of salary as is sufficient to provide "pension" benefits to all those who according to actuarial estimates will remain in the service until retirement. The number of those who will withdraw from the service before retirement, through resignation, dismissal or death, is discounted in advance, and no contributions are made on their account. This arrangement considerably reduces the rate of contribution and results in an immediate economy for the government.

Contribution towards Administrative Expense. The administrative expense of any system is in the nature of a current expenditure and should, therefore, be made on a cash disbursement basis. As it may vary considerably from year to year, the scientific systems here discussed have provided that each year the legislature shall appropriate the

amount which has been estimated as necessary for meeting the probable expenditures of the ensuing year.

Contribution towards the Maintenance of the Guaranteed Rate of Interest and Solvency of the System. The framers of a system may find it desirable that the government should guarantee a certain rate of interest so as to assure the system against a sudden fall in the interest rate realized on its investments, or that it should guarantee to cover any other deficiency which may develop. The systems of Massachusetts and Connecticut do not guarantee any rate of interest on the contributions of the members of the system. They credit such interest to the individual accounts as has been actually earned on the investments during the year. The rate of interest realized during the year may be very low, and yet the state will not need to contribute on that account. Quite different is the situation in the system of New York City. The law guarantees 4 per cent of interest on the teachers' contributions. If the interest actually earned falls below this rate, the city must cover the deficiency. The soundest method probably is to cover the deficiency during the year it occurs. The city can thus contribute on that account on a cash disbursement basis.

In case the government guarantees the solvency of the system, it may be called upon to contribute on account of any deficiency which may appear. Thus, for example, under the system of New York City, the city guarantees that "in no case shall such annuity be less for each one hundred dollars of accumulated deductions of a present-teacher at the time of retirement than is shown in the following schedule." If the actual rate of mortality among the teachers should be lower than the one assumed, then a deficiency will appear which the city will have to cover. It may be necessary to devise a special contribution which will discharge the deficiency on a reserve basis during a period of years. The problem will be to devise such a form of a "deficiency" con-

tribution as will be most economical under the particular conditions.

Coördinating the Various Elements of the Contribution. The form and rate of each element of the government contribution must be so devised as not only to be most appropriate for meeting the particular liability, but also to harmonize with the other elements of its contribution. The problem is one of coördinating all the component parts in such a way as to make the whole contribution most economical for the government with regard to both its present and future burdens, and also most effective in so far as the solvency of the system is concerned. An illustration of this is afforded by the cases of the new systems of New York City and Pennsylvania. The former was launched with the load of an already existing pension roll which required on its part an immediate annual contribution of a million dollars. Under such abnormal conditions the city could not afford to contribute on a full reserve basis on account of the present active members, and the "partial reserve" was probably more economic. While the annual appropriations for the payment of new pensions will increase, the annual appropriations on account of the old pensions will decrease. The Pennsylvania system started under quite different conditions, for it did not find an already existing pension roll which it had to carry. In view of the absence of this element of contribution it could well afford to contribute on a full reserve basis on account of its present members.

Despite the need for precise actuarial computation and for careful fiscal examination which the foregoing discussion shows to be indispensable if the amount of the government's contribution is to be fixed upon a sound basis, cities and states have resorted to a variety of unscientific and unsound methods. The chief of these are deserving of detailed consideration.

Unsound Methods of Financing the Government's Contribution: The Cash Disbursement Method. From the

nature of the case, as well as from a review of the considerations developed in the preceding section with regard to the varying rates at which the several types of liability to be met by the government mature, it would seem too plain to need argument that the only fair and sound method of financing the major elements in the government's contribution is to set up a reserve to which contributions may be made before the liabilities have begun to mature in quantity. Despite the obvious wisdom of this principle, in not a few systems the government still attempts to provide its contribution by the cash disbursement of the sums currently required. This method is found in the state system of New Jersey and in a number of other non-contributory systems.[1] Their statutes provide that the government must appropriate each year an amount sufficient to pay the pensions of that year.

Systems of the "cash disbursement" type are almost invariably unsound for the reason that at their establishment the future growth of the pension claims is either greatly underestimated or not anticipated at all. The requirements of the system are very small at the beginning, but the government contribution rapidly increases until it considerably exceeds the normal cost of the system. The generation of taxpayers, which is responsible for the establishment of the system, escapes with a comparatively light contribution, whereas future generations have to bear the great bulk of the cost and contribute at much higher rate than they would have contributed on a reserve basis and under a different form of contribution. Each succeeding generation undergoes a relatively heavier and entirely unexpected strain.

As soon as such strain exceeds the limits of financial sacrifice which the public is willing to bear, relief is sought by levying assessments on the teachers, or, where they are already exacted, by increasing the rate of contribution, by reductions in the scale of benefits, by changes in retirement conditions,

[1]The non-contributory system of New Jersey ceased to operate in April, 1919.

or by other restrictions. Where the pensioning authorities hesitate to change the original scheme of benefits or where legal responsibility for pension payments prevents such course, compensatory economies are effected in salary expenditures either by lowering existing wages or checking normal salary increases, under the plea of the costliness of pension provisions.

Cash Disbursement to Cover Annual Deficiencies of an Unsound Fund. Closely related to the "cash disbursement" method proper, which is applied where no special fund exists, is the method employed where a fund does exist to supplement deficiencies in its income by a cash disbursement. In several of the unscientific systems the framers, realizing that the revenues with which the system is provided under the statute may prove insufficient to support the promised benefits, have incorporated in the law a provision that in case in any one year a deficiency arises the state or the city shall appropriate an amount sufficient to cover it. The idea usually is that the deficiencies will be only accidental and temporary. The actual experience, however, is that once a deficiency appears, it stays, and furthermore increases from year to year under the pressure of increasing disbursements. As a result, larger and larger appropriations are required each year to cover the rapidly increasing disbursements and the system becomes exceedingly burdensome.

Unsound Methods of Financing the Government's Contribution: Using Special Revenues not Determined by Pension Needs. In reviewing the evolution of teachers' pension systems in this country it was seen how the early wholly contributory systems, in their attempts to secure government aid, shrewdly suggested the diversion to their funds of obscure special revenues—such as excise taxes or the interest on the school funds—thus avoiding the opposition which would have been aroused had a direct appropriation from the general revenues been sought. The device thus resorted to as a meas-

ure of strategy was not long in hardening into a precedent; and in several of the existing systems the government's contribution still consists of special revenues which cannot, in the nature of things, bear any accurate relation to the needs of the system. So, in California, 5 per cent of the inheritance tax is thus allotted; in New York, previous to the reorganization of its system, an equal percentage of its excise tax was thus pledged. Of a similar character was the provision under the old system of New York City and of Cleveland that made available the sums obtained by deductions from teachers' salaries on account of unexcused absences.

The objection to these methods of financing the government's contribution, on the score solely of their unreliability and their lack of correspondence to the needs of the system, is too obvious to require discussion. The fluctuating character of incomes derived from such sources is illustrated by the experience of the old New York City fund with its excise tax contribution, which slowly decreased during the first four years, when it suddenly took an upward trend which it followed during the next seven years until, after a steep increase in 1908 and an almost as steep a decrease in 1909, it took a downward trend which it followed to 1917, when, under the new law, it was altogether eliminated from the fund. Referring to the California method of financing the state's contribution by setting aside a percentage of the inheritance taxes received, the retirement fund committee said in 1916:

The inheritance tax is a fluctuating amount, depending upon the number of estates liable to the tax probated during any one fiscal year. It has been an unusually prolific source of revenue during the past two fiscal years, but may suffer a decline at any time. It is as uncertain as life. The last congress placed a federal tax on inheritances, which may seriously affect state income from this source. The combination of state and federal tax may place such an onerous burden upon inheritances that public opinion will demand a reduction, in which case the state will be obliged to make the sacrifices, as it alone is responsive to the wishes of the people of California.

Should this situation arise, the percentage now received by the retirement salary fund from the inheritance tax must be increased, or a regular income provided from another source. The retirement salary fund cannot suffer the slightest reduction in revenues, but should, on the contrary, be considerably augmented if we desire to place the future administration of the law upon a secure financial foundation.[1]

The history of pension funds supported by special revenue indicates that their financial unsoundness is slow to be borne in on the public mind. The special revenue grows at a slower rate than the requirements of a pension fund and with each year the appropriation becomes, therefore, less and less adequate. But since the money becomes available automatically, the bad condition of the pension fund may continue until the fund collapses. Only then will the government be called upon to revise its pension provisions.

Such was the experience of the New York City pension funds, as shown by the following extracts from the reports of the pension commission:[2]

The constant extension and liberalization of the city's pension policy in the past is directly due to the comparative ease with which its pension funds secured cash through indirect methods, apparently imposing no burden either on the taxpayer or on the beneficiary. It is obvious that the city would have revised its pension provisions long ago if the amounts it indirectly contributed had appeared in the annual budgets as direct appropriations clearly labeled 'for pensions.'

In connection with the criticisms of the present method of providing funds to meet the cost of pensions, it is desired to call special attention to its worst feature—the use of miscellaneous city revenues as sources of income. In the first place, it is unfair to the taxpayer, since it throws a cloak of mystery over the real cost of pensions. The money becoming available each year from these indirect sources automatically reverts to the fund and is used up without the public realizing

[1]School Report, 1916, p. 74.

[2]Report on the Pension Funds of the City of New York, 1916, Part I, p. 54. Report on the Teachers' Retirement Fund, 1915, p. 28.

the true proportions of the expenditure. Secondly, there is no parallel between the growth of miscellaneous revenues applicable to the fund and pension payments, since increases in revenues seldom, if ever, grow at the rate of pension liabilities.

It is, therefore, in the interest of both the taxpayer and the present and prospective beneficiaries of the fund that it should not derive its income from miscellaneous revenues, a method which creates the erroneous impression of shifting the pension burden from both the taxpayers and the beneficiaries. The city's part of the pension fund cost should be met systematically and openly by budgetary appropriations.

The only sound method of raising the government contribution is to raise it from the general fund. Such an appropriation must appear in the annual budget. It is not disguised, therefore, as is the one which is derived from special funds, and it can be coördinated with the financial plan of the government in relation to its other expenditures.

Unsound Methods of Financing the Government's Contribution: Fixing Rates not Related to Pension Needs. Very similar in some of its effects to the use of special revenues for financing the government's contribution is the provision, found in a number of systems, whereby the government's annual contribution to the pension fund, though drawn from the general revenues, is determined as to amount by provisions having no accurate relation to the needs of the system. Thus, the government's contribution is sometimes fixed at a certain percentage of the assessed valuation of all taxable property. Four of the nineteen contributory systems selected for special study make this provision.[1]

In Cleveland the city's contribution is fixed at from 1 to 2 per cent of the total school taxes. The advantage of government aid thus determined is that it tends steadily to increase in amount. Unfortunately, however, it increases slowly, for

[1]The rates are as follows: Illinois, 0.1 mill; Minnesota, 0.5 mill; Boston Permanent Fund, 0.7 mill; Denver (maximum), 0.1 mill.

it depends upon the comparative increase of the population and taxable property, whereas the requirements of the fund always increase more rapidly, as they depend upon the rapidly increasing number of pensioners on the retired list and the number and payroll of the members. In the Boston Permanent Fund the contribution from the mill tax increased from $64,000 to $72,000 during the first five years, whereas the payroll of the members of the fund increased from $2,700,000 to $3,500,000. The ratio between the contributions and the payroll which was 2.3 per cent in 1908 was only 2 per cent in 1913. The contribution in 1915 was exceeded by the disbursements and had to be increased by a new law from five cents to seven cents on each thousand dollars of assessed valuation.

In a few jurisdictions the rate of the government's contribution is determined by factors more nearly related to the probable growth of pension requirements. In Wisconsin the state's contribution is fixed at the rate of ten cents per each person of school age. A government contribution of a certain percentage of the payroll obtains in the systems of the state of New York and the city of Chicago. It increases at the same rate as the membership and the payroll increases, and it can easily be fixed at the same percentage at which the employee's contribution is fixed.

As the pension requirements increase more rapidly than the payroll or the school population, these methods of determining the government's contribution, while much more satisfactory than those dependent upon conditions not directly related to the schools, are open to the general objection that they do not insure to the pension fund an amount corresponding to its scientifically determined needs.

Most unscientific of all is the provision found in some systems for the contribution by the government of a uniform amount each year.

Out of the twenty-four systems which have been studied

in detail, only two systems—those of Maine and Virginia—have this provision. The state contribution in Maine is fixed by statute at $25,000, and that in Virginia at $5,000 annually. In view of the fact that the pension expenditure is of a constantly increasing nature, it is evident that it cannot be financed long with a contribution of a fixed amount. In time the expenditures of the fund will outgrow its fixed revenue.

Unsound Methods of Financing the Government's Contribution: Amount of Contribution Discretionary. In a few systems the amount to be contributed by the government is not fixed according to any definite rule, the appropriate fiscal authorities being empowered to fix whatever amount they deem proper. The systems of Baltimore, Pittsburgh, Buffalo and Philadelphia illustrate this type of government. A system which has to depend for its support upon the changeable views of the government administrators, and which may be curtailed at any moment, cannot develop normally. The example of Pittsburgh is illustrative. After four years of operation, during which the requirements of the fund increased from $7,000 to about $50,000, the board of education, impressed by the increased contribution it was required to provide, decided to discontinue granting new retirements, gradually to abandon the old system, and to establish a new system instead. In Philadelphia the city may, under the statute, contribute any amount not below $50,000 nor above the amount of the teachers' contributions of the preceding year. During the first six years it contributed only $50,000 annually. Each following year since 1913 it arbitrarily increased its contribution by $10,000. In Buffalo the statute provided that the common council might in its discretion contribute any amount not more than the amount which the teachers contributed the year before. The council decided upon an appropriation of only $10,000. It is still contributing this small amount, less than one-fourth of the amount which the teachers contribute, at the present time.

CHAPTER IX

THE TEACHER'S CONTRIBUTION

The determination of the contributions to be paid by the teachers presents two distinct problems: How shall the cost of the benefits be assessed against the different classes of teachers? How shall the amount assessed against the individual teacher be distributed over the entire period of contribution?

The desirability of making some distinction in the assessment of contributions between the various classes of teachers follows plainly from the varying relations which they sustain to the probable benefits of the system. Most clearly is this apparent in connection with retirement benefits. In those systems, forming a considerable proportion of the whole, which make a minimum length of service the only requisite for retirement, the age at which a teacher enters the service will obviously bear an essential relation to his or her prospective retirement benefit; a teacher entering the service at the age of 20, for example, in a system where 30 years' service is required for retirement, may reasonably look forward to from fifteen to twenty years of life after retirement; while one entering at the age of 30 may expect to live after retirement no more than about two-thirds of that period. Again, in those relatively few systems which permit retirement, regardless of length of service, at a fixed age, it is plain that the later in life the teacher enters the service the shorter the period he or she has in which to contribute towards the retirement benefit.

Sex, too, has an important bearing on the probability of benefits. The mortality of women is lower than that of the

men. The cost of a given annuity payable at a given age is, therefore, higher in the case of the women than in the case of the men, and it would be unfair to charge them for it at the same rate. Where retirement is contingent upon length of service and women may retire at an earlier age than men, the need for different rates is still more manifest.

Lastly, in those systems in which the amount of the annual retirement benefit is dependent upon the salary earned by the teacher at the time of retirement or for a period previous thereto, the amount of the benefit received by the individual, other things being equal, will vary according as the rapidity of the advancement of the individual in the service has been above or below the average.

In any scientific pension system the three factors mentioned—age (both at entrance and retirement), sex and salary—should be given weight in determining the rates of contribution. It is impossible of course to foretell which of the members of a fund will be superannuated or disabled, which will resign or be dismissed or die before qualifying for the benefit, or to tell how long this or that member will live after retirement, and how much in aggregate annuities he will draw from the fund, and to make him contribute accordingly. But it is possible to determine through statistical observations and actuarial computations how many members will receive one or the other kind of benefit, how long on the average those who retire at a certain age will live after retirement, and how much on the average they will draw from the fund during that time, and what will be the average cost of various benefits at various ages for different sexes and salary groups.

In some of the unscientific systems the rates of contribution have been fixed in an arbitrary manner and the factors mentioned have been either entirely ignored, or only one of them—the salary factor—has been considered. In a number of these systems the length of service factor has been taken

into account and an arbitrary difference in the rates based on the length of service has been adopted.

Contribution not on a Cost Basis: Uniform for all Members, Irrespective of Age, Salary, Sex and Service. A number of systems are still found in which a uniform contribution is required of all members, regardless of the difference in age, salary, sex and length of service of the members. Among the twenty-four systems, here discussed three are of this type. The facts regarding them are as follows:

SYSTEMS HAVING AMOUNT OF CONTRIBUTION UNIFORM THROUGHOUT

Systems	Contributions	Benefits	Conditions of Retirement	
			Age	Length of Service (Years)
California........	$1 monthly	$500	None	30
Boston Permanent Fund	$18 yearly	$120	"	30
Cleveland........	$20 yearly	$12.50 for each year of service, maximum, $450	"	30

Such systems are fortunately few. Most systems recognize one or more of the variables discussed in fixing the rates of contribution.

Contribution not on a Cost Basis: Graduated According to Salary. The graduation of contributions according to salary is the form of graduation most commonly found in the teachers' pension systems of to-day.

The table on the following page shows the systems falling in this group.

It will be noticed that the New Jersey system graduates the contributions according to salary and length of service rendered previous to becoming a member. By this method it

SYSTEMS HAVING RATE OF CONTRIBUTIONS GRADUATED ACCORDING TO SALARY

Systems	Contributions	Benefits	Conditions of Retirement	
			Age	Length of Service (Years)
New Jersey	2 per cent of salary for members with 10 years' prior service; 2½ per cent with 15 years, and 3 per cent if longer prior service	60 per cent of salary, minimum $250; maximum $650	None	20 (disability)
New York	1 per cent of salary	½ salary, maximum, $600	60 and or None and	25 35
Virginia	1 per cent of salary	½ salary, maximum, $500	58 (men) 50 (women)	30

presents an attempt in an indirect way and in a crude form to graduate contributions according to entrance age.[1]

Contribution not on a Cost Basis: Graduated According to Length of Service. In a few systems the contribution has been made to depend entirely upon the length of service, the period of service being divided into five or ten year periods and a fixed amount of contribution set for each period, regardless of the salary or age of the member. The table on the following page sets forth certain facts regarding the systems in this class.

The crudity of this method of graduating contributions, and its failure to correspond in any way to the variations of age, and in any but the roughest way to variations of salary, are obvious. Its sole merit, surely a slight one, is that of simplicity.

Contribution not on a Cost Basis: Graduated According to Salary and Length of Service. In a few systems the

[1]This system as already stated is no longer in operation.

SYSTEMS HAVING RATE OF CONTRIBUTIONS GRADUATED ACCORDING TO LENGTH OF SERVICE

System	Contributions (in Dollars or Salary Percentages) During					Retirement Benefit	Conditions of Retirement	
	First 5 Years	5 to 10 Years	10 to 15 Years	15 to 20 Years	20 to 25 Years		Age	Length of Service
Illinois	$5	$5	$10	$30	$30	$16 for each year of service, maximum $400	50 and	25
Minnesota	$5	$10	$20	$20	$30	$350 increased by $30 for each year of service after 20 years, maximum $500	None	20
Chicago	$5	$10	$15	$45	$45	$400	None	25

contribution is fixed as a percentage of salary which increases with length of service, as shown in the table on the following page.

It will be observed that in four of these five systems the increase of contribution with increasing salary is mitigated, at least for the teachers who advance most rapidly, by the provisions setting a maximum to the contribution required in each period of service. As respects these teachers the systems in question bear a resemblance to those in which a fixed amount of contribution is required during each period of service. The low rate of contribution during the beginning of a teacher's career facilitates the difficult task of the leaders of a fund of soliciting the membership of the younger teachers. As the teacher approaches the time of retirement he becomes more willing to pay the higher rate. This apparently is one of the reasons why this arrangement has been adopted.

Contribution of a Uniform Percentage of Salary for all Members, with Benefits Adjusted on a Cost Basis. A plan which does not take account of the age of the entrant in fixing the rate of contribution, but which instead takes it into account in fixing the benefit, is found in the systems of Massachusetts and Connecticut. Every member contributes annually 5 per cent of his salary regardless of the age at which he entered the service, but the longer the period during which the contribution is made, the greater is the sum which accumulates with interest and the greater the benefit which it can purchase.

The weakness of this plan appears in case of the late entrant. His contribution provides an inadequate annuity for superannuation and disability and also inadequate savings benefits in case of resignation, dismissal or death. For example, a man who enters the service at age 25 and contributes for thirty-five years 5 per cent from a salary which amounts to $700 the first five years, $1,000 the next twenty years and

SYSTEMS HAVING RATE OF CONTRIBUTIONS GRADUATED ACCORDING TO SALARY AND INCREASING WITH LENGTH OF SERVICE

System	Percentage of Salary During					Retirement Benefit	Conditions of Retirement	
	First 5 Years	5 to 10 Years	10 to 15 Years	15 to 20 Years	20 to 30 Years		Age	Length of Service
Wisconsin	1 per cent maximum $15	1 per cent maximum $15	2 per cent maximum $30	2 per cent maximum $30	2 per cent maximum $30 (up to 25 only)	$12.50 for each year of service; maximum $450	None	25
Michigan	½ per cent maximum $5	1 per cent maximum $10	1 per cent maximum $10	2 per cent maximum $20	2 per cent maximum $20	½ salary of minimum $300; maximum $500	None	30
Philadelphia	1 per cent	1 per cent	2 per cent maximum $50	2 per cent maximum $50	2 per cent maximum $50	½ salary, minimum $400; maximum $1000	60 and	30
Baltimore	1 per cent maximum $14.40	1 per cent maximum $14.40	1½ per cent maximum $21.50	1½ per cent maximum $28.80	2 per cent maximum $28.80	½ salary, minimum $360; maximum $600	None	40
New Orleans	1 per cent	1 per cent	1½ per cent	1½ per cent	2 per cent	½ salary, minimum $300; maximum $600	65 or	30

$1,500 the last ten years, will have to his credit $2,416[1] which will purchase an annuity of about $225 at the age of 60. On the other hand, a man who enters the service at age 50 and contributes 5 per cent from a $1,000 salary for ten years will have to his credit only $579.64, which will purchase an annuity of only about $55.[2]

Rate of Contribution Graduated According to Age and Salary: Benefits on a Cost Basis. The new systems of New York City and Pennsylvania graduate the contributions according to age at entrance into the service and according to salary. In the case of an early entrant a small contribution paid during a long period accumulates an amount sufficient to purchase at a certain age an "annuity" which, together with the "pension" offered by the city, will provide a total of about one-half pay. In the case of later entrants a large contribution, although made through a shorter period, makes it possible to purchase an annuity of about the same amount, and also to provide an adequate savings benefit in case of resignation, dismissal or death. This method is, therefore, much more elastic than that of the Massachusetts system.

If the benefits were rigidly fixed at one-half salary, then in computing the percentage of salary required to cover the cost of that benefit, it would have been necessary to assume a certain average rate of salary advancement. A member who advances more rapidly than the average, however, may eventually receive more than he has been paying for; whereas a member who advances more slowly may receive less than what he has been paying for. The result will, to a certain extent, be inequitable.

The framers of the New York City and Pennsylvania sys-

[1]

5	contributions at	$35......	$187.91
20	" "	50......	1,358.63
10	" "	75......	869.46
Total 35		......	$2,416.00

[2]Table 4 of Appendix 4 shows the annuities which can be purchased by certain sums at various ages.

tems have sought to obviate this difficulty by the following method. They determine the percentages of salary which, if contributed on the basis of average salary advancement, will purchase at a certain age or after a certain length of service an "annuity" of a certain fraction of salary, it being assumed that the other fraction is contributed by the government; but they do not guarantee that in every case the annuity will amount exactly to that fraction of salary. Each member receives such an annuity as his contributions will purchase. In case of those who advance more rapidly than the average, the amount will be somewhat less than that fraction of salary, whereas in the case of those who advance more slowly the annuity will amount to more than that fraction. Thus, the members who advance more slowly do not pay for the annuities of those who advance more rapidly.

Distributing the Contribution over the Period of Service. In some actuarial systems it has been proposed that the rate of contribution be made lower at the beginning of the service than at a later period, and that it be made to gradually increase as the service advances. The main advantage claimed for this method is that it lightens the burdens of the members at the time when they are young and least interested in retirement provisions, and increases the burden as they become older and more concerned in retirement.

The outstanding objection to this method is that it impedes the operation of the interest factor, for it reduces to the lowest rate the first contributions which earn most interest during the long period they remain on deposit, and increases to the highest rate the last contributions which earn the least interest. In view of the loss in interest this form of contribution is in the aggregate much more burdensome to the employee than is a contribution of a uniform percentage of salary throughout the entire service. None of the systems which have been established on an actuarial basis either in this country or abroad have adopted this method. All have adop-

ted the uniform percentage throughout the entire service as the most economic form of contribution.

Minimum Contribution as a Prerequisite to Full Benefit. To protect their fund against being drained by the payment of pensions in respect to prior services during which no contributions were made, some of the unscientific systems require that a teacher who applies for retirement must have contributed an amount equal to at least one-half of one year's, or in some systems a year's, pension, otherwise his pension will be proportionately reduced. The table on the following page gives the requirements in this respect of the systems surveyed in this volume.

In view of what has been said in previous chapters of the large size which "accrued liabilities" invariably assume in a system, it must be apparent that provisions of this type are of themselves so utterly inadequate to protect the fund and the contributions of the new entrants and of the younger "present teachers" as to be virtually useless.

TOTAL AMOUNT OF CONTRIBUTIONS WHICH A TEACHER MUST PAY TO THE FUND BEFORE RECEIVING FULL RETIREMENT BENEFIT

Retirement Systems	Is Credit Allowed for Service Rendered after the Establishment of the System?	Total Minimum Contribution Required	Amount of Pension	Minimum Length of Service	Minimum Retirement Age
1. Systems in which total contributions must equal at least half of one year's pension:					
New York......	Yes	½ of one year's pension	Max. $600	25 and 35 and	60 None
Minnesota......	"	Arrears	$350 to $500	20	None
California.......	"	$360	$500	30	"
Virginia........	"	⅛ salary	½ salary maximum $400 or $500	30	58 men 50 women
2. Systems in which total contributions must equal at least one year's pension:					
Illinois.........	Yes	One year's pension	$400	25	50
New Jersey Retirement Fund	"	"	$250 to $650	20	None
Wisconsin......	"	"	$312.75 to $450	25	"
Michigan.......	"	"	$300 to $500	25	"
Philadelphia....	"	" [1]	$400 to $1,000	30	60
3. Systems in which the minimum of total contributions is higher than one year's pension:					
Chicago........	Yes	$450	$400	25	None
Cleveland......	"	$600	$375	30	"
Boston Retirement Fund...	"	$540	$132	30	"

[1] The law provides for the payment of arrears, which are fixed as follows: Ten contributions of 1 per cent and twenty of 2 per cent, or a total of 50 per cent.

CHAPTER X

COMPULSORY PARTICIPATION AND THE RIGHT TO MANAGEMENT

A number of pension systems have been established in the United States in which participation upon the part of the teachers has been optional, but these proved so weak and ineffective that most of them have had to change to a compulsory basis. Not one of the twenty-four systems selected for detailed examination in this volume is of the optional type.

Usually, when a voluntary fund is established, very few teachers join it at the outset. These are for the most part the oldest teachers who are most interested in retirement benefits. The younger teachers remain outside knowing that they can join it whenever they choose, and postpone joining from year to year until they, too, have grown nearer to old age. The financing of a fund in which old teachers are predominant is much more difficult of course than the financing of a system to which the entire force belongs. The managers are thus forced to conduct a continuous campaign to attract new members. Frequently, too, the small number of new members is offset by the loss of other members. Withdrawal, when allowed under a voluntary system, frequently has a disorganizing effect upon the fund and makes a stable financial policy impossible.

Leaving financial considerations aside, important social and economic considerations are involved in the question of compulsion. The advocates of optional features strongly object to the introduction of compulsion on the ground that it

amounts to a confiscation of salary and is an infringement of the rights of the individual.[1] The advocates of compulsion, on the other hand, object to optional membership on the ground that it fails to insure protection to the individual against the main contingencies of life, to relieve the service of the very teachers who constitute the main object of a retirement system, and to protect the society against the individual becoming a public charge.

The Federation of Teachers' Associations of New York City expressed this view in the following words:[2]

> Because of narrow optimism and unwillingness to look ahead, this type of teacher (the younger teacher) remains outside of the system and arrives at the stage of superannuation and disability without adequate resources of her own to fall back on, but with strong determination to resist retirement unless it is accompanied with financial support at public expense. The city, representing society, has a right to protect itself against unjust and unwarranted claims upon its treasury arising from the failure of individual teachers to include thrift among their virtues.
>
> It has a right to expect of them as an intelligent and educated class of teachers, an appreciation of the wisdom and equity of compulsion in a sound measure which offers them unprecedented financial advantages, and under which they can, under no conceivable circumstances, suffer financial loss.

The principle of compulsion can be enforced by two methods, depending on whether compulsion is enforced on the teachers already in the service at the time of enactment of the law, or only upon those appointed thereafter.

Compulsion for New Appointees; Option for Teachers Already in the Service. Under one method compulsion is enforced only on future appointees. On the day of their appointment they automatically become members of the fund. It is urged that in their case a full measure of compulsion

[1]See pp. 223 and 258.
[2]Why Compulsory Participation of Teachers in Pension Fund is Unavoidable. 1916.

may equitably be enforced because they are informed before they accept their appointments that this will be demanded of them. On the other hand, the members of the existing force are given the option to decide, within a given time after the enactment of the law, whether or not they desire to join. Once they have made their decision, however, it may not be changed. If they enter they must remain in the system so long as they are in service.

The objections to this arrangement are of course not so strong as they are to the purely voluntary system, for it may be expected that ultimately all the teachers who have elected not to enter the scheme will die or leave the service and be replaced by newly appointed teachers all of whom will, under the law, necessarily become members of the system. This process, however, may, for its completion, take as many as fifty years, and long before that period has elapsed the fund will have fallen into an intolerable condition. There is, in fact, hardly a system of this sort in operation which has not found it necessary to obtain legislation offering new opportunities and new inducements to enter to those who have not availed themselves of the option offered them by the original law. But in spite of these inducements satisfactory responses have not been obtained.

In Wisconsin out of 9,168 teachers only 2,168, or less than one-fourth, made application to come under the law before September 1, 1912. In Illinois only about 1,500 of the total number of 22,500 teachers in the state elected to join the system. In Massachusetts the slow returns necessitated an extension of the time limit. The experience of Chicago was similar.[1]

Compulsion for Present Teachers. The application of compulsion to teachers already in the service at the time of enactment of the law, as well as to those appointed there-

[1]A novel arrangement by which all present teachers, who do not apply for exemption, are made members of the system, was adopted in Ohio and is discussed in Chapter XVIII.

after, was originally adopted in several systems. It soon met with considerable opposition on the part of the younger teachers in Chicago for the reasons already described. The New York City system succeeded, however, in maintaining it in its old system, and, furthermore, in incorporating it in its new scientific system which was recently enacted. This method greatly simplifies the matter of financing the fund and makes the system more effective as an administrative, economic and social measure. There is no doubt but that with the growing appreciation of the benefits derived from a combined pension, savings and insurance system and with the spread of the social insurance movement the teachers will look more favorably upon the compulsory feature and will readily accept it.

More recently the view has taken hold that while the payment of certain minimum rates of contributions and the discharge of certain minimum obligations should be compulsory, contributions above the minimum rates and the discharge of higher obligations should be left optional with the member. This combination of compulsory and optional features is highly desirable for it gives recognition to the mutual rights and responsibilities of the employees and the government. It has been adopted in the new systems of both New York City and Pennsylvania.

The Selection of the Managers of the System. The management of a pension fund may be vested either in an already existing authority or in a body specially appointed for that purpose. The first method is adopted in a number of systems. Thus, in California and Pittsburgh the management is vested in the board of education; in Denver in the board of school directors; in Virginia in the department of public instruction; in Maine in the superintendent of schools; and in New Jersey[1] in the state commissioner of education. The disadvantage of this method is that the authorities cannot give the pension fund the undivided attention which it requires.

[1]System now discontinued.

In most of the systems a special retirement board is provided upon which both the educational authorities and the members of the fund are represented. In some systems the representatives of the authorities have the majority in the board; in other systems the representatives of the members of the fund have a dominating voice; and in a few systems both sides are equally represented.

Several objections have been raised against retirement boards in which the government representatives are in the majority. It is urged that such a board is inclined to act in the interests of the government rather than in those of the members of the fund. The board frequently fails, therefore, to secure the teachers' coöperation, and if the fund develops a deficiency the blame is placed upon the government. Seven of the twenty-four systems studied in detail have retirement boards of this nature.

On the other hand, retirement boards in which the majority of trustees are elected by the members of the fund have been objected to on the ground that these boards are inclined to be too liberal to the beneficiaries of the fund and to disregard the interests of the schools. If a deficiency appears in the fund and the government is called upon to undertake the heavy expense of covering the deficiency and to save the fund from depletion, the government may refuse to give the required assistance on the ground that the members of the fund are responsible for its mismanagement and should, therefore, provide for the deficiency. This type of a retirement board is found in eight of the twenty-four systems.

A provision for a retirement board in which the members of the fund and the authorities are represented in equal numbers avoids the objections raised to the foregoing plans. It assures equal representation of the interests of each party in all matters concerning the operation and development of the fund and it divides the responsibility of its safe management equally between them. The state system of Massachusetts is

provided with such a retirement board. It consists of seven members, three of whom represent the state. They are the commissioner of education, the insurance commissioner and the bank commissioner. The three other members are elected by the members of the fund. The seventh member is elected by the six members. The fact that the insurance and bank commissioners are on the board and that the secretary elected by the board is acquainted with actuarial problems assures to the board a technical knowledge which is essential to a sound financial management of the fund.

Following is a table setting forth the organization of the retirement boards in those of the twenty-four systems studied in which both the government and the teachers are represented.

ORGANIZATION OF RETIREMENT BOARDS HAVING REPRESENTATIVES OF BOTH GOVERNMENT AND TEACHERS

I—BOARDS WITH GOVERNMENT REPRESENTATIVES IN MAJORITY

Systems	Total Number of Members in the Retirement Board	Members Representing the State or City	Members Representing the Teachers
Boston Retirement Fund	3	Chairman of the Board of Commissioners of the Sinking Funds; another chosen by the School Committee; and a third chosen by the Teachers' Retirement Fund Board	..
New York State	5	Superintendent of Schools, Academic Principal, elementary school teacher and two other members. (All appointed by the Commissioner of Education)	..
Minnesota	5	3 — State Superintendent of Schools, Auditor, Attorney-General	2
Buffalo	5	3 — Mayor, Superintendent of Education, Chairman of the Board of School Commissioners	2—President of Principal's Association and President of Women Teachers' Association
Philadelphia	5	4—President of the Board of Education, 2 members of the Board of Education, 1 member of the Department of School Superintendence	1
New York City	7	4—President of the Board of Education, Chairman of the Commission on Elementary Schools, Chairman of the Commission on High Schools, City Superintendent of Schools	3
Baltimore	7	4—Superintendent of Schools, Comptroller, 2 members of the Board of Education	3
Connecticut	5	3—Secretary of the Board of Education, State Insurance Commissioner, Bank Commissioner	2

Organization of Retirement Boards Having Representatives of Both Government and Teachers

II—BOARDS WITH TEACHERS' REPRESENTATIVES IN MAJORITY

Systems	Total Number of Members in the Retirement Board	Members Representing the State or City	Members Representing the Teachers
Illinois.........	5	2—Superintendent of Education, State Treasurer	3
Wisconsin.......	5	2—Superintendent of Education, State Treasurer	3
Michigan.......	6	1—Superintendent of Education	5 (1 woman)
Cleveland.......	6	2—Members of the Board of Education	4
Chicago........	9	3—Members of the Board of Education	6
New Jersey Retirement Fund	9	4—Superintendent of Education, 3 members appointed by the Governor	5
New Orleans....	9	4—Superintendent of Education, 3 members of the Board of School Directors	5
Boston Permanent Fund	11	5—Superintendent of Education, 4 members of the School Commission	6 (3 men and 3 women)

III—BOARDS WITH EQUAL REPRESENTATION OF THE GOVERNMENT AND THE TEACHERS

Systems	Total Number of Members in the Retirement Board	Members Representing the State	Members Representing the Teachers
Massachusetts...	7	3—Superintendent of Education, Insurance Commissioner, Bank Commissioner; the seventh member elected by the six	3
Pennsylvania....	7	3—Superintendent of Schools, State Treasurer, one member appointed by the Governor; the seventh elected by the six	3

PART II

TYPICAL TEACHERS' PENSION SYSTEMS OF TO-DAY

CHAPTER XI

SYSTEMS WITHOUT RESERVES

The teachers' pension systems existing in this country number nearly a hundred. Yet only in the case of the Massachusetts system, the New York City system and the recent Pennsylvania system[1] were actuarial estimates of future liabilities made at the time of establishment. With but few exceptions, therefore, the funds of the existing systems are found, as time goes on, to be inadequate. It will be of interest, and perhaps no little illustrative value, to outline the history of certain of these systems.

In a number of these systems no reserves whatever were provided against liabilities, the government having assumed the responsibility to pay pensions as they matured by appropriating each year the necessary amount. The characteristic features of this "cash disbursement" plan were discussed in detail in a former chapter.[2] All these systems have committed the grave error, to which systems operating on the cash disbursement basis are peculiarly liable, of underestimating the inevitable future growth of maturing pension obligations.

In most cases the amount of the government's contribution to these funds has not been definitely limited by statute. This fact frequently results in a mistaken impression on the part of the members of the system, that whatever the expenditure of the system in the future may be, it is always assured of an unlimited backing by the government.

The majority of the existing systems which belong to this type are of recent origin. They have already developed heavy

[1]Also the new systems of New Jersey, Ohio and Vermont enacted in April, 1919.
[2]See p. 135f.

disbursements, compelling the government to limit its support. Others have not had sufficient time to develop considerable disbursements, but it will not take long for them to become burdensome to the government. In a number of them the amount which the government disburses annually in pensions equals at present only 1 or 2 per cent of the amount it expends in salaries, but in the future it will reach 15 per cent or even more.

Among the twenty-four systems selected for study the half-pay pension system of New Jersey and the systems of Maine and Pittsburgh fall in the class of systems without reserves.

Pittsburgh Teachers' Retirement Association. The board of education of that city established in 1912 a retirement system by which a teacher who had served 25 years in schools of the United States, provided half of this time was served in the schools of Pittsburgh, would be eligible to retirement on a pension of $500. No contributions were required from teachers, the regulations providing that the board of education should appropriate each year the amount needed to pay the pensions of that year. In the year in which the fund was organized only thirty-five retirements were made, but during the second and third years, this number increased to seventy and eighty-five respectively. The rapid increase in the appropriation is shown below:

Year	Annual Appropriation for Pensions
1912	$ 7,000
1913	32,500
1914	39,400
1915	49,000

This rapid increase in the cost of pensions to the city attracted the attention of the authorities and a report of the finance committee of the board of education, dated October 26, 1916, declared: "It has been recognized for some time that all hope of continuing to add new pensions under the present plan must be abandoned." The board, therefore, discontinued granting new retirements.

This action aroused considerable discussion. The teachers maintained that the original regulation of the board gave them an absolute right to pensions after 25 years of service and that the board had no right to revoke this regulation. The board on the other hand asserted that when the regulation was adopted it contemplated exercising its discretion and that its intention was perfectly clear in view of the fact that the state law did not fix the provisions for the various school boards, but allowed each to establish a pension system in any manner it might choose.

Realizing that any amendment of the old and defective pension regulation would not rid the financially unsound system of the danger of bankrupting the city, the board determined to liquidate the old system and to try to find a new one which would be financially sound, as generous as possible to the teacher, and fair alike to the two contributors—the taxpayer and the teacher. A resolution was passed by the board on February 20, 1917, repealing the old pension rules so far as the grant of new benefits was concerned.

In submitting the report of an actuary employed by it, the finance committee wrote:

> The committee made numerous attempts to provide a financially safe method of retiring teachers at an age earlier than 65. In every instance, however, the cost was found to be prohibitive both for the teacher and to the public. You will note especially that the plan provides: 1. That all contributions made by the teacher shall, in every event, be returned to his or her designated beneficiaries with interest compounded at 4 per cent. The teacher has, therefore, a guaranteed savings account in addition to provision for a pension; 2, That the plan requires all teachers to participate; 3, That the total payments made by teachers the first year would be about $108,054, and that the total budget provision to be made by the board to cover present pensions and the installation of this plan the first year would be $200,000.[1] The cost of retirement at age 60 would be about double each of the above.

[1]Including the deficiencies with respect to the present force.

The teachers were to contribute according to their age and sex from $1.50 to $11 monthly towards their retirement on a pension of $500 at age of 65, and the city to contribute equivalent amounts. These joint contributions were to be deposited to the individual account of each teacher and to draw compound interest. The rates of contributions were to be based upon standard mortality tables and the system was to operate on an actuarial reserve basis.

The teachers objected to the plan because it provided for retirement only at the age of 65 and required exceedingly high contributions. Thereupon, the committee on retirement prepared another report in which it proposed the following modifications of the original plan: first, a provision by which all teachers above 40 years of age would be required to contribute at the rate fixed for age 40, i. e. a limitation of the teachers' contributions to a maximum of $5.20 per month instead of $11.45 per month as under the first plan, and second, an option to retire between 60 and 65 on a reduced pension. The scale of pensions was to be as follows:

Age	Pension
65	$500
64	440
63	395
62	355
61	320
60	300

The teachers gave no better reception to this revised plan than they had to the first plan. They objected to it "because of the age requirement of 65 years, and the small annuity at 60 years of age."[1] The report of the citizens' committee stated that[2] "the teachers desire a pension of $500 at retirement age of 60, but are unwilling or unable to pay the higher rates" required for such a pension at that age. The city is willing to contribute at the rates required for a $500 pension

[1]Meeting of the Pittsburgh Teachers' Association, Feb. 13, 1917. Minutes of the Pittsburgh Board of Education, Feb. 20, 1917, p. 282.
[2]Report on Teachers' Pensions. Published in pamphlet form Jan. 23, 1917.

at 65 years of age and, furthermore, to assume the payment of that part of the teachers' contributions which is above $5.20, besides assuming the entire obligation aggregating about $600,000 on account of the 110 annuitants retired under the old pension system, and considers it inexpedient for the present to go any further in its liberality.

Whether the proposed system is adopted in its present form, or further modified, or not adopted at all, it is clear that the old unsound system can never be revived; the city will either establish a sound system or it will join the new state-wide system of Pennsylvania.

New Jersey 35-Year Service Pension System. The agitation for a "service pension payable entirely at public expense, and without any contribution from the teachers," began in New Jersey in the early nineties but suffered a severe defeat at that time. Instead of a service pension a teachers' retirement fund, supported entirely by the teachers themselves, was established. The agitation for a service pension, however, continued and achieved its first success in 1903 in a rather accidental way.

Some time in 1902, or in the beginning of 1903, a certain teacher, who had taught in Jersey City for more than 40 years and had many friends in that city, met with a severe accident. It appeared that he was permanently incapacitated and would never be able to return to teaching. A group of teachers in that city attempted to obtain a pension for his benefit, as the school authorities had no power to grant one. The teachers, therefore, appealed to the legislature to give the school authorities the power. The bill framed by the teachers without providing a special fund for the purpose allowed any district board of education to pension on half pay any teacher who had served for more than 40 years consecutively in the same district, thus exactly covering the case of the particular teacher in question. The measure became a law on March 5, 1903.

It is curious to note that after the enactment of this law, the teacher, for whose special benefit it was passed, refused to avail himself of the pension.

The requirements of the law were so high, and its provisions so particular, that for the next three years only two other teachers could qualify for the pension offered by it.

In 1905, a recommendation was made by an actuary to a special committee, which investigated the Teachers' Retirement Fund, (another retirement system in New Jersey which is discussed in the following chapter) that the law be so changed as to forbid any teacher receiving a "service pension" from the board of education to receive also an "annuity" from the fund. The enactment of such an amendment would have prevented the duplication of benefits which later on developed. The recommendation was, however, disregarded and on the contrary a resolution was adopted at the meeting of the State Teachers' Association directing its committee to secure an amendment which would broaden the scope and lower the service requirements of the law. This was attained a few months later in 1906, when an amendment was obtained lowering the requirements to 35 years of service of which only 20 years had to be in the same district. This opened the system to a much larger group of teachers, and during the following three months five teachers applied for retirement and received the pension. The number of pensions increased from seven to twenty-six during the following year and continued to increase rapidly from year to year as shown below:

Year Ending June 30	Number of Pensioners on the Retired List
1906	7
1907	26
1908	48
1909	65
1910	100
1911	125
1912	155
1913	185
1914	222

Meantime, in 1907, 1911 and 1912 three other amendments had been passed. The first allowed not only the local boards of education but also any other body employing teachers to grant pensions; the second lowered still further the requirements by giving credit for service rendered in any other state; and the third broadened the interpretation of the service covered to include all persons "employed in the public school work."

Until 1914 the system was entirely local in its support and control. In that year an amendment provided for the central administration of the system by the state commissioner of education, and further liberalized the retirement conditions. The requirement of 20 years of service in the district in which the teacher applied for retirement was also struck out of the law; the only limitation was that a teacher must have served 25 of the 35 years in New Jersey.[1] "Teacher-clerks and any person employed in any supervisory capacity," who had not previously been subject to the law were now admitted to its benefits. The funds necessary for the payment of pensions were to be supplied from the apportionment from railroad tax devoted to the maintenance and support of schools which the comptroller distributed among the several counties.

The result of the provisions of 1914 was that the number of pensioners and the total payments increased at a still more rapid rate as shown in the following table:

Year Ending June 30	Pensioners on the Retired List	Amount of Pension Roll
1915	275	$150,000
1916	348	176,000
1917	369	211,000
1918	417	246,000

At no time either before the establishment of the system or in the course of its subsequent amendment were the ques-

[1]The teacher was made eligible to retirement under the following conditions: After 35 years of active service, 25 of which must have been performed in the state; or after 70 years of age, if the last 20 years have been served in the state; or after 75 years of age, if 32 years have been served in the state; or after 35 years of service and 70 years of age, in case of disability.

tions raised: What does the half-pay pension cost? What liabilities are assumed under the system, and what additional liabilities will accrue if the proposed amendments are enacted? In short, the system was established by chance, and was modified in an off-hand way without any consideration paid to the financial obligations assumed.

Since the retirement fund (described below[1]) offered a benefit of 60 per cent of salary, and the state pension offered 50 per cent of salary, a teacher who could qualify under the two systems and whose salary was below $1300 could receive in the form of the two benefits more than the amount of his salary. Such a prospect was very attractive. Teachers who had 35 years of service but were still capable of teaching, and who would not have applied for retirement if they were entitled only to half pay, were now eager to retire. On the other hand, the teachers who could no longer perform their duties efficiently, but who had not completed 35 years of service, and who, therefore, could by retiring obtain only the annuity, but not the pension, were anxious to postpone their retirement until the time when they could qualify for both. The efficiency of the service thus suffered on account of early retirement of efficient teachers as well as from the postponed retirement of invalids.

In 1917, the legislature appointed a commission to investigate all the pension and retirement systems operating in New Jersey. Believing that it was important that the state should know what its total liabilities were, the commission had an actuarial estimate carefully prepared. This estimate showed that the cost of the half-pay pension on a reserve basis would amount to about 4 per cent of the payroll for new entrants and that the liabilities on account of the then 400 pensioners amounted to about $2,150,000, and the total liabilities on account of present pensioners and the prospective pensioners among the present teachers amounted to about $24,350,000. If the system continued to operate without providing an ade-

[1]See page 183.

quate reserve, the annual requirements for pensions, which now amounted to a few hundred thousand dollars and to slightly more than 1½ per cent of the pay roll, would in a not distant future amount to more than a million dollars and the annual requirements would exceed 10 per cent of the pay roll.

It is plain that to prevent this tremendous increase of the burden, the system will have to be reorganized. It is probable that at the time of reorganization the question will be considered whether it will not be wise to supplant the two unsound systems,—the state pension and the retirement fund,—by one sound system supported by joint contributions of the state and the teachers and jointly controlled by them.[1]

Maine School Pension Fund. This is a fund in name only, for it has no capital. It is supported by a small appropriation by the state from the school and mill tax fund. The teachers do not contribute.

The plan of this system was prepared by a special committee appointed for that purpose by the Maine Teachers' Association, and was revised by the members of the legislature. It provided for an appropriation of $8,000 the first year and $25,000 annually thereafter with which to pay pensions of $150 to $250 according to length of service. One of the important changes made during the revision of the bill provided for the grant of half pensions to teachers who were retired before the enactment of the law. A provision of this kind is very rarely included in a pension system, for, aside from the question of the wisdom of a retroactive measure,[2] it increases the immediate burdens of the system.

The bill was passed on March 19, 1913.[3] The fixed amount of the annual appropriation is one of the weakest features of the law. The experience of Maine will doubtless prove similar to that of other funds in that the amount of annual disburse-

[1]Such a reorganization was effected by legislative enactment on April 10, 1919, as described in Chapter XVIII.
[2]See page 199 for a similar provision in Virginia.
[3]Maine, Acts, 1913, ch. 75.

ments will grow from year to year. In the second year of the operation of this system thirty-five new pensions were added while only twelve were terminated and the pension roll carried $22,251, a sum dangerously near the limit allowed by law. Out of this amount over $12,000—more than 50 per cent of the total—was expended on half pensions to 150 teachers who had retired before the enactment of the law.

It became evident at the beginning of the year 1917 that the disbursements of that year would exceed the $25,000 limit. Upon the recommendation of the state superintendent the legislature increased its appropriation to $27,500. As disbursements increase each year a larger appropriation must be requested. The state thus cannot long continue to bear the increasing burden, no part of which is borne by the teachers. The teachers too must sooner or later realize that it is to their advantage to contribute to the system in order to receive from it an additional benefit besides the small pension provided by the state.

CHAPTER XII

SYSTEMS WITH INADEQUATE RESERVES: STATE SYSTEMS

As already indicated the systems which have totally failed to recognize the necessity for a reserve are but few in number. In most systems this necessity has been appreciated but very inadequately. It has been thought of in the terms of protection against some unexpected exigency and a source of supplementary revenue. The annual pension payments are met as they mature from the annual receipts of the system, i. e. by the "cash disbursement" method. The left-overs of the annual receipts (the so-called "surpluses") are set aside and are invested and form the so-called "reserve."

The latter does not act as a true reserve, which is built from practically all receipts of the system and which serves as the source for meeting all pension obligations and the main basis of all its financial operations. It plays an entirely subordinate role in the operation of the system—a kind of appendix rather than the foundation of the system. Being so conceived and supported by the residues of a usually meager income it is naturally inadequate to protect the system against future heavy demands and assure its solvency. Of the twenty-four systems selected for study seventeen are of this type. They are as follows:

States		Cities	
1. Illinois	est. in 1915	1. Chicago	est. in 1896
2. New York	" " 1911	2. Philadelphia	" " 1907
3. New Jersey Ret. F.	" " 1896	3. Cleveland	" " 1907
4. Minnesota	" " 1915	4. Boston Ret. F.	" " 1900
5. Wisconsin	" " 1911	5. Boston Per. F.	" " 1908
6. California	" " 1913	6. Baltimore	" " 1909
7. Virginia	" " 1908	7. Buffalo	" " 1896
8. Michigan	" " 1915	8. New Orleans	" " 1910
		9. Denver	" " 1909

In the systems of Virginia, Chicago, Buffalo, New Orleans, the two systems of Boston, in the old system of New York City, in the New Jersey Retirement Fund, altogether in eight of the seventeen systems, the disbursements have at one time or another exceeded their statutory income, which has resulted in a reduction of benefits, in the discontinuance of new retirements, and in the introduction of new laws to relieve the situation.

The other systems, nine in number, are still very recent. This is the only reason why they have not as yet failed. The systems of Illinois, Minnesota, Michigan and California have had but a short existence, but the first two are already under investigation. The New York and Wisconsin systems were established in 1911, those of Baltimore and Denver in 1909, of Philadelphia and Cleveland in 1907. All these are still in the accumulative stage. Their revenues still exceed their disbursements and yield balances which create an impression of apparent prosperity and financial security. But soon their growing disbursements will exceed their revenues; and then these funds, like those of Virginia, New York and Boston, and others mentioned above, will be in a critical condition and will start on a rapid decline. A better idea of the financial condition of these systems may be formed if each is discussed separately. A separate analysis of each fund is, therefore, presented below, the Chicago fund being described in a separate chapter.

The financial arrangements for all the other funds in this country which have inadequate reserves are similar to those of the systems which are analyzed in detail in the following pages. The bankruptcies or sudden reductions of benefits which resulted from these arrangements in Minneapolis, Milwaukee, Providence and Newport are similar to those developed in New York City and Boston.

Illinois Teachers' Pension and Retirement Fund. This system became effective on July 1, 1915, and is compulsory

on those subsequently entering the service. Teachers in the service at the time of enactment have the option until September 1, 1920, to become members. Up to June 30, 1916, only about 1,500 of the total number of about 22,500 teachers in the state elected to join. They were undoubtedly the older teachers who expected to retire immediately or in a few years. Approximately 1,600 teachers newly entering the service automatically became contributors. The total membership, therefore, then numbered about 3,000 teachers.

Up to June 30, 1916, a total of 301 teachers were retired on the full annuity of $400. Of this number 225 were women and 76 were men. Twenty persons were retired because of disability on a smaller annuity in proportion to the number of years served. The majority of the retirements were granted at the close of the year. The expenditures during 1916 were, therefore, very small; they amounted to only about $8,500. The disbursements of 1917, however, were considerable since the annuity roll amounted to more than $120,000.

The system is managed by a board of trustees consisting of five members, the superintendent of public instruction, the state treasurer and three contributors or annuitants elected by the contributors and annuitants.

An annuity of $400 is granted on retirement after 25 years of service (of which a minimum of 15 years must have been taught in the schools of Illinois), provided the applicant is at least 50 years of age. A proportionately reduced annuity is paid on disability retirement after 15 years of service. The applicant must have contributed in all $400, or else pay the deficiency with 4 per cent interest. No refunds of contributions or other benefits are granted upon resignation, dismissal or death.

The income of the fund is derived from two sources—the members of the fund and the state. The members contribute according to the number of years they have taught; those

with less than 10 years contribute $5 per year; those with more than 10 years but less than 15 years, $10; and, finally, those with more than 15 years of teaching experience contribute $30 per year. No teacher is required to contribute for more than 25 years. The state contributes an amount equal to one-tenth per mill of the assessed valuation of property.

A few months after the system was established it came under the investigation of the Illinois Pension Laws Commission, together with the police, firemen and other systems operating in Illinois, and the following quotation from its report which refers to the unsound condition of all the pension systems in Illinois, including the state teachers' system, is interesting:

The general condition of pension systems operating under the laws of Illinois may be correctly described as one of insolvency. That is to say, viewed from the standpoint of sound finance and of having the necessary reserves to carry out the payment of pensions as provided in the laws, there are immense deficiencies in the existing funds. In short, the financial provisions are entirely inadequate for paying the stipulated pensions when due. It may be well to emphasize here that there is nothing more erroneous than the common view that so long as the amount in a pension fund is increasing all is well with it. To be sure, some of these funds are increasing, but that is no indication of their sufficiency, and it is strange how completely satisfying such increase is to many participants even if the fund is certainly inadequate.[1]

According to the estimate of the commission the ultimate annual pension payments under the present system will amount to between 7 and 12 per cent of the annual salary payments. Yet the fund is provided with a teachers' contribution which averages only a little over 1 per cent of the annual salary payments, and will in the future average a lesser proportion as salaries increase. True, disbursements of from 7 to 12 per cent will not be required for a number of years. In the beginning the fund will be more than sufficient to pay the

[1]Illinois Pension Laws Commission Report, 1917, p. 272.

pensions of retiring teachers, especially in view of the fact that the membership of the fund and its disbursements are small and that the state appropriation augments the fund. Soon, however, an amendment of the law will become necessary which will give another oportunity for those to enter the fund who did not enter it in 1915. So long as the teachers' contributions are fixed at an almost insignificant rate, every additional member will increase the liabilities of the fund without proportionately increasing the assets and will add a new claim against future state appropriations which are limited to a small portion of the mill tax. The disbursements will increase at a more rapid rate than the income and will eventually exceed it. It is very probable, however, that the managers of the system with the aid of an enlightened public opinion will bring about a reorganization of the system on a sound basis long before this happens. One of the officers of the fund has recently stated that the law "needs revising inasmuch as there is no provision made for an actuarial investigation and the age for retirement is perhaps too low. It seems to me that any sound permanent retirement fund must be founded upon actuarial investigation and a thorough research, such as would lead to the cost of maintenance of the fund."

New York State Teachers' Retirement Fund. In the year 1910 the State Teachers' Association of New York, the Academic Principals Association, and the Council of Superintendents appointed a committee to get in touch with the education department in order to prepare a bill and to secure its enactment. The bill introduced passed the legislature on June 26, 1911 and was amended in 1913 and 1914.[1]

The law applies to all teachers except those covered by local funds. The law provides, however, that the state fund must take over any local fund if more than two-thirds of the teachers of the respective locality vote in favor of a merger.

[1]New York, Acts, 1911, ch. 449; 1913, ch. 511; 1914, ch. 44.

The following retirement funds have availed themselves of this provision and have been merged with the state fund:

Poughkeepsie	established in 1902
Niagara Falls	" " 1904
Troy	" " 1906
Elmira and Schenectady	" " 1907
Watervliet and Yonkers	" " 1908
Nassau and Saratoga Counties	" " 1910

The following cities and county still have local funds and remain outside of the state system:

New York City	established in 1894
Buffalo	" " 1896
Syracuse	" " 1897
Rochester	" " 1905
Albany	" " 1907
Cohoes	" " 1908
Mt. Vernon	" " 1909
Westchester County (except Yonkers)	" " 1909

The board of retirement consists of five members all of whom are appointed by the commissioner of education; one of them at the time of appointment must be a superintendent of schools, one an academic principal, and one an elementary school teacher. One of the five must be a woman.

An annuity of one-half of the average salary of the last five years (max. $600) is provided upon retirement after a minimum of 25 years of service, of which the last 15 must have been served in the schools in the state. Proportionately smaller annuities are paid on disability after minimum of 15 years' service. No refunds of contributions are made to those who resign or are dismissed or to the dependents of those who die.

These benefits were to be paid out of a fund derived from a 1 per cent deduction from teachers' salaries. The unexpended balances were to be set aside each year to build up the capital of the fund. No estimates of the cost of benefits were made. The commissioner of education stated in 1913 that "there is not reliable data at the present time to determine accurately the number of teachers in the state who are entitled to be retired under this law or the amount required to meet

annuities."[1] It was estimated, however, that if out of 1,200 teachers, who had more than 25 years' service, 300 should retire, the income would exceed the disbursements by about $25,000, and that if 600 should retire a deficiency of more than $40,000 would appear. But even this indefinite computation covered only one year and did not take into account the fact that a rapid increase in the disbursements was bound to develop. A faint suspicion that the fund might prove insufficient to pay all annuities is evidenced in the following passage in the commissioner's report:[2]

> It has been confidently believed by those who have been giving this matter careful attention for two or three years that sufficient endowments will be made to the fund to avoid the necessity of the legislature making appropriations to meet deficiencies. It would be a deserved compliment to the teaching force of the state if some of our public spirited citizens should make sufficient gifts or endowments to this fund to make the income sufficient to pay all annuities.

It was thus hoped that should the fund be threatened with disaster private philanthropy would come to the rescue. Had an actuarial investigation of the fund been made at that time, it would have shown that disbursements were bound to exceed the receipts from the 1 per cent contribution, and that annual deficiencies instead of surpluses were bound to develop and disaster result in five or six years.

During the first year only ten retirements were made, the disbursements amounted to only $2,000, and the greater part of the income was unexpended and carried to investment. During the second year, however, the number of retirements jumped from 10 to 152 and the disbursements from $2,000 to over $40,000. In view of this alarming increase it became apparent that the income would soon be insufficient, and an appeal was made to the legislature to contribute to the fund an amount equal to the teachers' contributions. An act to this effect was passed in 1914, and as a result of the new law

[1]Report, 1912, p. 27.
[2]Report, 1912, p. 28.

the contributions in 1915 were at once doubled. This increase has postponed for the time being the disaster which, however, is bound to happen within a few years.

The following figures illustrate the rapid increase in the number of retirements and the amounts of disbursements during the last four years. The total number of retirements rose from about 150 in July, 1913, to almost 700 in July, 1917, and the amount of annual disbursements grew during the same period from $40,000 to almost $200,000. The retirement board then adopted a resolution raising the requirements for service retirement so that an applicant who is not disabled must either have 35 years of service and be 60 years of age, or if he has less than 35 years (but more than 25), must be 65 years of age.

A bill was also introduced in the legislature making discretionary the acceptance by the state fund of any local fund which desires to merge with it. The point is that some of the local funds having been longer in operation are nearer collapse than is the state fund. The legislative committee, however, refused, and justly so, to endorse any measure except one which would provide for a reorganization of the insolvent system. It held that the proposed measure would merely help to postpone reorganization and result in the increase of the deficiency which the future generations will have to discharge.

The officers responsible for the management of the state system have endorsed the actuarial reorganization of the New York City system. They appreciate the imperfection of their own system and contemplate placing it on an actuarial basis. The considerable actuarial data compiled by the New York City commission and the scientific pension plan which it prepared after a three-year study of the problem will undoubtedly facilitate their difficult task.

The sooner the reorganization is effected, the better it will be for the majority of the teachers who are inadequately protected under the present system; for the longer it operates

the larger will be the number of teachers with claims of "vested rights" in it.

The following sets forth the principal facts relative to the New York state system in April, 1917.

Membership	24,000
Number of annuitants	669
Annuity roll	$187,182
Capital	572,000
Average age at retirement	57 years
Average length of service	31 years

New Jersey Teachers' Retirement Fund. The New Jersey Teachers' Retirement Fund is the first state-wide system for the retirement of teachers to be established in this country.[1] It provides an annuity of 60 per cent of the average salary for the last five years (min. $250, max. $650) upon retirement after 20 or more years of service, if the teacher can prove disability. The fund operates on a tontine basis, no refunds of contributions or other benefits being provided for those who resign, or are dismissed, or who die before completing the required period of service. It is managed by a board consisting of nine members—the superintendent of public instruction, three members, not teachers, appointed by the governor, and five teachers elected by the members of the fund. The financial history of the fund during the twenty-one years of its operation may be divided into four periods. These periods were identical in their leading aspects —each began with an excess of income over disbursements only to have the latter reach or outstrip the regular income.

The fund was opened on a voluntary basis in 1896 with a membership of about 2,500 teachers out of a total of about 5,000. The income was to consist of a contribution by the members of 1 per cent of their salaries. In addition, 1 per cent was deducted from the annuities granted and it was hoped to augment the regular income by obtaining donations and legacies and arranging bazaars and entertainments. No disbursements were made during the first year. Thirty-five hundred dollars were paid out the second year and almost

[1]The history of its establishment was described at length on page 38.

$5,000 during the third year. The membership not only did not increase but even declined, and the districts were irregular in transmitting the dues. The increase in the disbursements with the resulting reduction in the annual surplus is shown below:[1]

Year Ending June 30	Receipts	Disbursements	Annual Surplus (Excess of Income Over Disbursements)
1897	$12,400	......	$12,400
1898	15,300	$3,500[2]	11,800
1899	13,300	4,700[2]	8,600

The decrease in the membership and the annual surplus was alarming. It was apparent that in a few years the disbursements would overtake the income unless membership was increased or new sources were added, or retirements restricted.

Accordingly in 1899 an amendment was secured extending membership to teachers who had not become members in 1896 and who might now wish to enter, and containing certain restrictions as to retirement. A permanent organization was effected for conducting membership campaigns and soliciting funds. Through the energetic efforts of this organization the membership was increased and the income supplemented from special entertainments which were arranged and from donations and legacies which were obtained. These sources yielded almost $7,000 in 1900 and over $3,000 in 1901. During the succeeding two years, however, the increase in the disbursements exceeded the increase in the income, with a result that the surplus decreased, as shown below, falling under the amount which was set aside at the end of the first period:

It thus became apparent that the previous increase of income

Year Ending June 30	Receipts	Disbursements[1]	Annual Surplus (Excess of Income Over Disbursements)
1900	$21,100	$8,200	$12,900
1901	20,800	10,400	10,400
1902	20,300	12,600	6,700

[1]The figures in this and the following tables are compiled in round numbers to the nearest hundred from the figures given in the N. J. School Report, 1913 (vol. 1, p. 506-7).

[2]Includes administrative expense, $2,600 in 1898 and $1,200 in 1899.

[3]Includes administrative expense: $1,700 in 1900, and $1,800 annually the following two years.

was insufficient and that a third increase was necessary. Therefore, another amendment to the law was obtained in 1902 which offered certain privileges to the teachers who would enroll during the next nine months. The contributions of all teachers who would become members after January 1, 1903, and who would then have more than 10 years of service were to be increased to 2 per cent. A great membership campaign was organized and about 900 teachers were enrolled. Immediately the income rose about $8,000 and the amount added to the capital about $5,000. As the disbursements continued steadily to increase during the next three years, the amounts added to the capital fell far below the already low mark set by the preceding period:

Year Ending June 30	Receipts	Disbursements[1]	Annual Surplus (Excess of Income Over Disbursements)
1903	$28,400	$16,900	$11,500
1904	26,400	20,900	5,500
1905	28,800	23,800	5,000
1906	34,800	29,100	5,700

The operations of the year 1905 resulted in a still smaller surplus, and those of 1906 would have resulted in a deficiency had not a strenuous effort been made to raise funds by means of entertainments and donations. In 1905 almost $3,000 had to be raised and in 1906 over $10,000 (the largest and practically the last collection in the history of the fund) in order to cover the deficiency. Again the fund was involved in financial difficulties and this time the difficulties were greater than before.

To relieve the situation a third amendment to the law was prepared and its passage secured in 1906, which, in the first place, began a liquidation of the old 1 per cent fund and established in its place a new fund with higher rates of contributions,[2] and in the second place compelled all teachers appointed in the future (after January, 1908) to enter the new fund.

[1]Includes administrative expense: $1,900 in 1903; $1,600 in 1904, and $1,500 the following two years.

[2]Those with less than 10 years of teaching experience at the time of becoming a member were made to contribute 2 per cent. of their salary, those with more than 10 but less than 15 years, 2½ per cent., and those with more than 15 years, 3 per cent.

During the first two years the results were very disappointing as the majority of the teachers refused the higher rates. The receipts increased because of the higher contributions of those who accepted the act, but not sufficiently to overcome the increase in the disbursements. As a result, the annual surplus continued to fall, as shown below:

Year Ending June 30	Receipts	Disbursements[1]	Annual Surplus (Excess of Income Over Disbursements)
1907	$39,600	$36,400	$3,200
1908	56,400	54,800	1,600

In the meanwhile the managers secured another amendment (1907) which increased the annuity to 60 per cent of salary, offered various other inducements to the teachers who would accept the new act, and postponed closing the doors of the fund for another year. But teachers were reluctant to enter it. All interest in the fund apparently died out. Then during the last four months of 1908, the managers launched a great membership campaign throughout the entire state and succeeded in enrolling almost 4,000 teachers. The large number of new contributors and the higher rate of their contributions increased the receipts for 1909 and 1910, respectively, to double and triple the totals for 1908, and gave the fund the largest annual surplus ever obtained. These first two years of operation at the higher rate of contributions have almost doubled the capital accumulated during the preceding twelve years:

Year Ending June 30	Receipts	Disbursements	Annual Surplus (Excess of Income Over Disbursements)
1909	$97,700	$64,600	$33,100
1910	152,100	87,100	65,000

Had the fund not changed from a voluntary to a compulsory basis and increased its membership by the great campaign of 1908, it would have faced another annual deficiency in 1909, and would have been forced to draw upon its reserve, then totaling about $95,000, which would probably have been

[1]Includes administrative expense: $600 in 1907 and $1,500 in 1908.

expended in five or six years, in spite of the annual automatic increases in the compulsory membership and the emergency collections and entertainments. However, with the contributions obtained from the younger teachers who were enrolled in 1908 and also from the new appointees who were compelled to contribute, the fund has been able to continue making payments to its old annuitants and to grant new annuities to its old members, and, furthermore, to increase its capital almost 400 per cent.

Meanwhile, the disbursements are continuing steadily to increase at a more rapid pace than the income. Each year the unexpended portion of income added to the capital becomes smaller and smaller as shown by the following table:

Year Ending June 30	Receipts	Disbursements	Annual Surplus (Excess of Income Over Disbursements)
1911	$174,800	$111,900	$62,900
1912	192,600	135,700	56,900
1913	196,900[1]	154,400	42,500
1914	231,900[1]	183,700	48,200
1915	235,400	207,200	28,700
1916	264,100	231,000	33,100
1917	277,000	258,000	19,000
1918	276,800	276,100	700

It is all too evident that soon there will be no surplus, the disbursements will again exceed the receipts, and the fund will develop an annual deficiency unless another temporary relief is obtained by again increasing the contributions, or a permanent improvement is effected by providing an adequate income actuarially determined.

The fund having been criticized by the Carnegie Foundation as being unsound, the State Teachers' Association decided on an actuarial investigation and offered to defray the expense of it. The coöperation of the retirement board was secured and

[1]A large part of the dues (about $15,000) creditable to 1913 had not been credited when the state treasurer's books closed on June 30, 1913, and were subsequently credited to the year 1914. The receipts and surplus shown here for the year 1913, as somewhat lower than those of 1914, were therefore in reality higher. An adjustment of these figures would have shown a more gradual decline in the annual surplus.

an actuary was engaged.[1] His report, submitted in November, 1917, showed that the liabilities of the fund on account of annuities now outstanding amount to $2,324,651.77. Its total present assets are only about $485,000. The fund is, therefore, insolvent even on account of those liabilities alone. But this is only a relatively small portion of the total liabilities of the fund; by far larger are the liabilities on account of all the members now in active service and who have been for years contributing to the fund. The total liabilities amount to many millions of dollars, and the total assets, according to all indications, are insufficient to offset them. This means that the great majority of teachers are still contributing for the benefit of others. It should be added that besides the thousands of teachers whose interests are thus sacrificed as a result of the apparent insolvency of the fund, there are a number of others whose interests would be sacrificed even if the fund were solvent, namely, all who withdraw from the service before retirement whether through resignation, dismissal or death. Under the law governing the fund, they forfeit all their contributions and are thus penalized for the benefit of those who stay in the service.

In December, 1918, the Bureau of State Research of the New Jersey State Chamber of Commerce issued a report[2] presenting the entire history of the fund and analyzing its present

[1]Previous to this investigation the fund was investigated in the year 1913 by a committee elected by members of the fund. The inherent weakness of the fund and the need for actuarial methods were not appreciated by the commissioners, who wrote: "The New Jersey law is the result of years of experiment and progressive legislation. The present law, while very comprehensive, is simple. It requires no actuarial knowledge to determine the amount of annuities; it has none of the insurance intricacies of the Massachusetts law. The questions that arise are not actuarial questions, but questions of fact and the trustees are entirely competent to answer them." It optimistically reported, "Your committee rest confident in the perpetuity of the fund." Report of special investigating committee authorized at the annual convention of county delegates elected by the members of the New Jersey State Teachers' Retirement Fund, Sept. 27, 1913, submitted Sept. 26, 1914, p. 15 and 23.

[2]Teachers' Retirement Systems in New Jersey, Their Fallacies and Evolution. Prepared by Paul Studensky. State Research, Consecutive Numbers, 10 and 12, 1918, 88 p.

condition. The report pointed out the anomaly of double benefits resulting from the coexistence of the retirement fund and the state pension.[1] Nominally, the two systems serve different purposes—the retirement fund protects the teachers against disability, and the state pension against old age. In reality, however, both grant superannuation benefits. Since 1911 the great majority, about two-thirds, of those who are being placed on the annuity list of the retirement fund are at the same time pensioners of the state system. Their total retirement benefits are, therefore, abnormally large when compared with the salaries they were receiving while in active service. For those whose salaries are less than $1,300, i. e. for the majority of those retiring on double benefits, the benefits are larger than the salaries, as may be seen from the following table:

10	teachers enjoying benefits of 70% to 75% of salary
78	teachers enjoying benefits of 75% to 100% of salary
86	teachers enjoying benefits of 100% to 110% of salary
189	teachers enjoying benefits of 110% of salary, and more
363	teachers enjoying benefits averaging 103% of salary

There is obviously no justification for paying a teacher after retirement more than she earned while in service. Moreover, the effect upon the efficiency of the schools may prove very prejudicial, as there is a strong incentive for quitting the service as soon as the minimum requirements for retirement are met.

The report of the bureau of state research shows conclusively that no further makeshifts in financing either the fund or the state pension can improve the situation, and that a reorganization on an actuarial basis is urgently needed. This raises the question whether this reorganization should be effected separately for each system, or whether the systems should be consolidated into one. A separate reorganization would involve for the teachers the necessity of carrying all

[1] The New Jersey State Pension System was discussed in the preceding chapter.

the burden of the future liabilities of the fund and supplying the many millions needed to cover its past deficiencies; on the other hand, it would necessitate the appropriation by the state of perhaps as much as a million dollars annually for the support of the state pension system on a reserve basis, and the duplication of benefits would continue. If, on the contrary, a single system were established and supported by joint contribution, the burden upon either party might be considerably less and the system could "meet the economic needs of every member of the system, effectively relieve the schools of the superannuated and disabled, insure the efficiency of the teaching staff, and benefit the public at large."

After an exhaustive actuarial investigation which showed that the retirement fund had a deficiency of about \$15,000,000 (liabilities of \$19,000,000 against assets of \$4,000,000) the pension and retirement fund commission, which, as already stated, was appointed by the legislature of 1917 to investigate all the pension funds in New Jersey, became thoroughly convinced that the teachers could not by their own contributions make the fund solvent and that the situation could be effectively remedied only by a merger of the two systems. It, therefore, undertook to frame a bill providing for the establishment of a new retirement plan jointly supported and administered by the teachers and by the state and founded on an actuarial reserve basis.[1]

Minnesota Teachers' Insurance and Retirement Fund. The state-wide system of Minnesota is one of the most recent systems in this country, the law for its establishment being enacted April 20, 1915.[2]

The system applies to all public school teachers in Minnesota, outside of Minneapolis, St. Paul and Duluth, where separate systems exist. Teachers who enter the service after July 1, 1915 automatically become members of the fund, whereas those already in the service are given until September

[1]The bill became a law on April 10, 1919. For the description of the new retirement plan see Chapter XVIII.
[2]Minnesota, Acts, 1915, ch. 199, Apr. 20.

1, 1917 to join it. It is managed by a board of trustees which consists of the state superintendent of education, the state auditor, the attorney general and two members of the fund association.

The revenues of the fund consist of annual contributions by the state and by the teachers. The state contributes one-twentieth of a mill tax on all the taxable property in the state, excluding Minneapolis, St. Paul and Duluth. This source will yield, during the first few years, about $60,000 annually.[1]

The teachers are divided into two classes: Those receiving salaries under $1,500 contribute $5 annually during the first five years, $10 the second five years, $20 the next ten years and $30 the last five years; whereas, those with salaries over $1,500 contribute during the first ten years 1½ per cent of salary (max. $20), and during the last fifteen years 2 per cent (max. $40). No contributions are required after twenty-five years.

Thirty years of service, fifteen of which must have been served in the state, entitle a teacher to a pension of $350. This pension increases by $30 for each additional year of service up to a maximum of $500. At disability after fifteen years proportionate pensions are paid, and upon death one-half of the member's contributions is refunded to his dependents, if no annuity has been drawn.

A member is allowed credit for services rendered prior to the enactment of the law provided he has paid arrearages at the above rate. In case a member retires before he has paid in the full amount of back assessments his annuity is credited until the required amount is made up.

The provision of the Minnesota system granting pensions after 20 years of service, regardless of age, is almost unique in its liberality. It would never have been introduced had

[1]During the year ending June 30, 1917, the fund received $80,700 in back assessments from teachers, $27,500 in assessments from new entrants, and $57,000 from taxes. The disbursements on annuities aggregated $49,300.

its real cost been ascertained. It allows retirement at as early an age as 40, although the life expectancy and the cost of retirement benefits at that age are considerable. However, this provision is not of primary importance. It merely shows how far the founders of a system may err when they do not know the cost of retirement benefits. The system would be financially unsound even if the retirement condition was increased to thirty or thirty-five years, for its contributions and benefits are not based upon mortality rates and interest tables, and it does not operate on a reserve basis.

A preliminary survey of the Minnesota fund was made soon after its establishment, at the request of the board of trustees, by Mr. E. S. Cogswell, former secretary of the Massachusetts Teachers' Retirement Fund. Asked as to his conclusions concerning the financial condition of the fund, he replied with the following statement:

As the time for joining the Fund Association for the teachers in service at the time the act was passed does not expire until September, 1917, it is impossible to make a complete report upon the affairs of the Fund before another year has elapsed. I am convinced, however, that even under very favorable circumstances the Fund as at present constituted by law, cannot pay in the long run more than 40% of the annuities mentioned in the act. Since the investigation was made, the board of trustees voted to pay only 80% of the annuities due October 1, 1916, as the law provides that the annuities may be prorated if the trustees believe the condition of the Fund requires it.

Of course, as in the case of other pension funds just starting, the current income is considerably in excess of current disbursements, but it will be only a few years before the disbursements will exceed the income unless the annuities are still further reduced.

The management of this Fund is efficient and progressive, and will at the proper time recommend to the legislature changes in the law so that the Fund may be placed upon a more solid financial basis.

Wisconsin Teachers' Insurance and Retirement Fund. This system was established on June 12, 1911,[1] at about the same time as the New York state system. It applied to all public school teachers in the state outside of Milwaukee, where a separate system exists, and it made membership compulsory for all teachers entering the service after September 1, 1911.

Teachers already in the service were given until September 1, 1912, to decide whether or not they would join the fund. It is interesting to note that out of 9,168 teachers, for whom the law was elective, only 2,168 made application before September 1, 1912, whereas as many as 7,000, more than three-fourths of the total number, which represented the bulk of the younger teachers, did not elect to come under the law.

The number of contributors to the fund increased rapidly during the next five years. On September 1, 1917, out of a total of 15,500 teachers outside of Milwaukee, as many as 12,100 belonged to the fund, whereas only 3,400 remained outside. Out of the latter number 10,060 contributed 1 per cent of their salary, and 1,390, 2 per cent.

The teachers contribute 1 per cent of salary the first ten years (max. $15) and 2 per cent for next fifteen years (max. $30). The total of twenty-five contributions must not fall below the amount of the first year's pension nor exceed $600.

The state contributes to the fund from certain school taxes, ten cents for each person of school age.

These revenues can provide for only a small part of the real cost of the benefits, which are fixed by the law as follows: A pension of $12.50 for each year of service on retirement after twenty-five years (of which eighteen must have been in the state), or upon disability after eighteen years, and a refund of one-half of the member's contribution without interest.

This Wisconsin state-wide system is more or less similar to the Milwaukee system, which was established by a state law in 1907, and amended in 1909 and 1911. The fate of the Milwaukee system is, therefore, of special significance. After

[1]Wisconsin, Acts, 1911, ch. 323, June 12.

a few years of apparent prosperity, when the fund had accumulated a reserve of about $100,000, the disbursements absorbed the revenues, and the board was forced to reduce the benefits from $400 to $300.[1] An amendment of the law was enacted[2] which restricted the retirements by increasing the service requirements to 35 years, except for persons over 65 years of age, in whose case only 25 years of service are required. It will undoubtedly be necessary soon to introduce a similar restriction in the Wisconsin system, because the 25-year service requirement permits retirement at a very low age and thus results not only in an undue financial burden on the system, but in the premature loss of efficient teachers. That the teachers are availing themselves of the low requirements of the system may be seen from the fact that the average age of 229 women, who have retired since the law went into effect, was only 52.7, and the average age of the 44 men was 55.8 years. This indicates that a considerable number of persons are retiring before 50 years of age. The average annuity of the women was $358.91 and of the men $365.98. The cost of these annuities at these early ages is considerable. According to the mortality experience obtained among the New York City teachers, a woman teacher retired at 53 years of age would live and draw her annuity for about 21.07 years. The cost of the average annuity of $358.91 at that age amounts to $4,791.45. The 273 annuitants have paid into the fund a total of about $91,000, yet they will receive benefits the value of which exceeds $1,000,000, or about eleven times the amount they have paid in.

How long will the fund be able to pay the tremendous excess over and above the amount which it has received from the annuitants? During the first six years the fund accumulated a balance of about $500,000 which created an impression of apparent prosperity and financial security. Yet in reality this balance is insufficient even as a reserve against the liabilities

[1]Milwaukee Sentinel, Feb. 17, 1916.
[2]Wisconsin, Acts, 1917, ch. 225.

under the existing annuity roll, let alone the reserve necessary to assure the future payments of benefits to present active members. The annuity roll has already increased from $11,193 in 1913 to $72,734 in 1915, and to almost $90,000 in 1917. In a few years the disbursements will catch up with and exceed the revenues, consisting of a state contribution which is almost stationary and amounts to only about $65,000, and of a teachers' contribution which amounted to about $82,700 in 1917 (outside of $16,000 paid in arrears) and which will not increase as rapidly as the pension roll. The fund will then draw upon the reserve which it has accumulated during the earlier years and will expend it in a comparatively much shorter space of time. It will then be unable to pay the same rate of benefits and to grant new retirements.

Only a reorganization of the system on an adequate basis can save it from disaster. The system is being investigated by the actuary of the Wisconsin State Insurance Commission and its weakness will undoubtedly be realized.

California Teachers' Retirement Salary Fund. The law establishing this fund became effective in August, 1913, at about the same time as the law establishing the state board of education. The fund was put into operation on January 1, 1914, after the state board had been organized. Membership was made compulsory for all new entrants, teachers already in the service being given until the beginning of 1914 to exercise this option.

A pension of $500 is provided after 30 years of service, 15 of which must have been passed in the state. The teachers contribute at the rate of $1 per month and total contributions at date of retirement must equal at least $360. The state contributes 5 per cent of the inheritance and transfer tax.[1]

[1]The proceeds from the inheritance tax were as follows: In 1913, $79,344; 1914, $89,775; 1915, $139,154; 1916, $157,261. The total annual receipts of the fund from all sources amounted to $346,749 in 1916. Of this about one-half came from teachers' contributions and the other half from the inheritance tax and from interest on investments. The disbursements that year amounted to $140,304, the surplus, $206,445, and the capital, $683,236.

A statement of the retirement board says that "up to the present time the income from the inheritance tax has been very satisfactory, but owing to its uncertain character may prove disappointing at any time, and the administrators of the law do not figure returns from this source as adequate for the prospective demands on the law." Experience has shown that the use of miscellaneous and fluctuating revenues has a bad effect upon a pension fund. In all probability the combined income from the two sources will soon prove utterly inadequate. The state, according to the law, may in its discretion appropriate an additional sum, but it is in no way obligated to do so. The wisest policy no doubt would be to reorganize.

That this is appreciated by the managers of the fund may be seen from the following extract from the report of the finance committee of the board.[1]

The present annual addition to the teaching force of the state is about 1,000, and the average annual increase in revenue from this source, therefore, will not exceed $10,000 (the average contribution being $10 per year).

On the other hand we are placing on the retirement roll over 130 teachers annually. In the last fiscal year the increased expenditure on this account over the year previous was $54,619.62. To offset this annual increase we can only anticipate an increased revenue from teachers' payments of $10,000. This conclusively disproves the impression, which somehow has gained circulation among teachers, that their contributions alone are providing enough funds to support the retirement salary demands. As a matter of fact, *if the present rate of retirements persists, we will, in four years, be disbursing our entire income from all sources, and it will be necessary thereafter to draw upon our surplus.* It is estimated by the State Board of Control that by the seventy-sixth fiscal year we will be facing a serious deficit, unless some changes are made in the conditions under which salaries are now granted, or revenues provided.

A study of the histories of teachers now under retirement

[1]Biennial Report, State Bd. Ed., 1914-16, p. 76.

salary shows an average age at retirement of 60 (plus) years. Mortality statistics give 12 years as the life expectancy at 60 years of age. For each teacher who takes advantage of the law at present the state assumes a liability of $500 per year for 12 years, or $6,000. Towards this sum the retiring teacher during her 30 years of service contributes $360. It is frequently asserted that this discrepancy is in a large measure made good by payments of teachers who leave the service without qualifying for the retirement salary, thereby forfeiting to the state the money they have paid in under the law. An average teacher stays in the profession about three years, and therefore during her teaching period contributes about $30 to the retirement fund. It would take contributions from 118 of these short term teachers to make up the sum necessary to pay for one teacher who remains to retire on full salary. Obviously, therefore, lapsed teachers' payments will have little effect on the larger problem of retirement salary support.

In bringing these matters to public attention it is not the object of the committee to sound any unnecessary alarm, but only to make clear the fact that *sooner or later steps will have to be taken looking to a more sound financial basis* for the public school teachers' retirement salary fund law than exists at present. The law is in the same category with an ore pocket in a gold mine; *it is rich enough on the surface, but is certain to run out in the future.* It is only proper that we should begin to take some stock for the morrow.

Recognizing the great benefit to California schools and school teachers of the operation of the public school teachers' retirement salary fund law, the necessity for an absolutely sound financial basis becomes a matter of vital consideration in the administration of the law. If this splendid progressive educational institution is to be perpetuated, it must be safeguarded while its administration rests in the hands of those committed to and heartily in sympathy with the principles upon which the law is based. It is not safe to let the future financial obligations of the law depend either in whole or in part upon the generosity of biennial direct legislative appropriations. Neither is it right or just to contemplate for the state a future financial burden out of proportion to the benefits anticipated from the operation of the law.

The public school teachers' retirement salary fund law

is based upon the theory that the schools and children of the state will be benefited by the retirement of teachers who have passed the age of real efficiency, by providing for them a salary in return for their discontinuance of active teaching. But combined with this utilitarian aim is a deep sympathy for the men and women of California who have given the best period of their lives to the instruction of the young, and a desire to see their declining years made comfortable and care-free by a stipend sufficient to meet the common necessities of existence. Thus we find combined here in this law a mutual benefit which is an ideal combination of utility and personal reward. For the benefit to the schools, the state should be willing to provide generously a lasting financial stability—for the personal benefits to accrue to the aged teachers of the state, the teaching fraternity should be willing to contribute a just portion and to agree to such modifications and limitations as will be necessary *to place the administration of the law upon a firm and lasting foundation, so that nothing will be liable to arise in future years to curtail or to jeopardize the rewards and benefits which teachers spending their life in the profession have a right to anticipate.*

The board proposes several things "which can be done to make the law less burdensome in its financial administration without working any appreciable hardship;" (1) fix the age limit of retirement, except under disability, at 55 or 60 years; (2) increase the years of service in California from 15 to 20 years; (3) increase teachers' payments after 15 years of service from $1 per month to $2 per month; (4) permit no retirement for disability under 20 or 25 years of service, 20 of which has been in California. The board realizes that these measures are only palliatives. Before an adequate financial reorganization of the system can be effected, the exact financial condition of the fund must be determined by means of an actuarial valuation of the total assets which the fund will realize on account of its present members and the total liabilities towards all prospective pensioners among them.

Virginia Retired Teachers' Fund. The difficulties with which this fund has had to contend present a striking illustra-

tion of the results of pension legislation enacted without observance of actuarial principles.

The law of 1908,[1] which established the fund, provided it with a revenue consisting of contributions by the teachers amounting to 1 per cent of their salaries and of a small contribution by the state amounting to about $5,000 annually, and fixed the benefits as follows: A pension of one-half salary, with a maximum of $400 and $500, after 30 years of service in the state, and after age 58, if a man, and 50, if a woman; and a proportionately reduced pension at disability.

The law is retroactive in its application, for it provides half-pensions for those teachers who had retired between the years 1902-1908 prior to the enactment of the law. This is a very unusual provision.[2] It has been held unconstitutional in several states.[3] However small the total of these half-pensions, it represents an additional and immediate drain on these revenues, and the framers of the bill should have known that it would precipitate a disaster.

The state superintendent of schools makes the following comment about the system:

The teachers pension fund in Virginia came as a result of the movement started by a very earnest body of teachers. The law had been prepared and presented to the legislature before our department was consulted about it. We suggested, however, that the only hope of avoiding a ruling against the constitutionality of the original act was to make the deduction of 1 per cent a matter of contract with the teachers. Our suggestion was adopted.

Our pension law illustrates also the dangers inherent in a good deal of modern school legislation which is designed and put through by enthusiastic, well-meaning teachers or laymen

[1]Virginia, Acts, 1908, ch. 313, March 14.

[2]Maine, in 1913, followed the example of Virginia and provided for the grant of half-pensions to teachers who had retired before the enactment of the law.

[3]In the state of New York the court has ruled that the board has no power to grant a pension to a teacher who ceased to teach before the enactment of the law. Mahon vs. Board of Educ., 171 N. Y., 263 (1902); People ex rel. Wooddy vs. Partridge, 172 N. Y., 305.

without consulting those who have practical and expert knowledge in reference to school administration and the proper financing of new school enterprises. The teachers strenuously opposed the retroactive feature, but the members of the legislature insisted upon that.

While Illinois, New Jersey, Wisconsin, Michigan and many other systems require that the total of all contributions of a teacher eligible to retirement should equal at least the amount of the first year's pension, Virginia requires a minimum of only 30 per cent. If the provisions in the several states mentioned are insufficient to make a fund solvent, how can Virginia hope to escape?

In view of the provisions thus calculated to supply the fund with small revenues and to charge it with large expenditures, the law provided that in the event of insufficiency of fund the board might prorate the benefits. This of course happened at an early date. Two years after the plan was started the pension roll reached $41,000, exceeding the revenues, which amounted to only $38,500. Then the board of retirement prorated the benefits.[1] No other system either in this country or abroad has failed so soon after its establishment. The state superintendent says:

Our legislation for teachers' pensions has been further handicapped by reason of the fact that the teachers are divided on the primary question of such legislation; namely, whether there should be a pension system. Therefore, the member of the legislature hears from some of his constituents the expression—'Maintain it by all means,' and from others—'Abolish it immediately.' This divided sentiment which prevails among our teachers is the real reason why the appropriations have not been more generous.

Michigan Teachers' Retirement Fund. The conditions under which this fund originated were unusual. The bill originally provided that in addition to the contributions which

[1]Report of the Carnegie Foundation, 1912, p. 26. In 1916 there were 419 pensions on the roll. The receipts of the fund consisted of $10,000 from the state, $41,000 from teachers and $2,000 from investments.

the teachers were to pay, the state was to contribute $6,000 for administrative expense and was also to cover any deficiency that might arise. The legislature, however, struck out the latter two provisions, and on May 11, 1915[1] passed the bill providing for a revenue from teachers' contributions only.

The teachers' contributions were fixed by the law at one-half of 1 per cent of salary (max. $5) during the first 5 years, 1 per cent (max. $10) during the next ten years and 2 per cent (max. $20) thereafter; and the total of all contributions must equal at least the amount of the first year's pension.

These contributions will be insufficient to provide the benefits which are as follows: After 25 years of service (15 in the state) or at disability after 15 years, a pension of one-sixtieth of salary for each year of service (min. $300, max. $500) and at resignation a refund of one-half of the member's contributions without interest.

In the event of insufficiency of the fund the board may increase the contributions to 1, 2, and 3 per cent respectively. Even a contribution so graded would equal an average contribution of less than 2 per cent of salary throughout the twenty-five years of contributing, since the higher contribution of 3 per cent would accumulate interest during a short period only.

The experience of almost all pension funds of long operation tends to show that no fund can be secure with benefits as generous as this fund allows unless it has a revenue several times as great. It is evident, therefore, that the increase of contributions within the narrow limits allowed by the Michigan law will be insufficient to save the fund from depletion. The board of retirement may then have to prorate pensions and even to stop granting new pensions altogether unless state aid is invoked and the system is reorganized. The first of these measures is specified by the law, the second measure

[1]Michigan, Acts, 1915, ch. 174.

is made possible by the provision which leaves the matter of granting or refusing of pensions entirely in the discretion of the board.

The following statement made by one of the officers of the fund in April, 1918, shows that steps looking to an actuarial reorganization of the fund are already being taken:

A few changes will be made during the next year. I believe that the Retirement Fund Board agrees with me in believing that certain changes as to bettering its finances will be advisable at the first opportunity.

The Retirement Fund Board has already placed an age limit of fifty-five among the requirements for retirement. This may be raised to sixty at the next meeting of the Board. I believe there will be an effort made in this state in the near future to have the state assume the cost of the administration of the law and also to provide state aid in the support of the law.

In my opinion a sound and equitable retirement system must have an age limit in addition to a service requirement. I believe that there should be three sources of income:

1. Teachers contributions.
2. Contribution of a like amount by the local School Board.
3. Contribution directly from the state.

I believe that our fund should be placed on a sound actuarial basis at the earliest possible date.

During the present school year we have collected data which gives us the salary and experience distribution for the teachers of the state and during the following school year we shall procure data which will give us the age distribution of the teachers of the state. We then hope to be in shape to make such investigations of our fund as will place the exact facts in the matter before us.

CHAPTER XIII

SYSTEMS WITH INADEQUATE RESERVES: LOCAL SYSTEMS

Philadelphia Teachers' Retirement Fund. The income of this fund is derived from two sources: the teachers and the city. The teachers contribute 1 per cent from their salaries the first 10 years and 2 per cent thereafter (max. $50). The city contributes an amount equal to that contributed by the teachers during the preceding year, provided its financial conditions warrant. In no case may it contribute less than $50,000. The total contribution of a teacher eligible to retirement must equal at least the amount of twenty-five contributions. If it falls short of that amount, the difference must either be paid by the teacher or it is deducted from the pension.

A pension of one-half salary, minimum $400 and maximum $1,000, is provided for a teacher who retires after 60 years of age and 30 years of service. Proportionate pensions are paid at disability and a refund of the members' contributions is provided at dismissal.

The fund was established in 1907. During the ten years ending December 31, 1916, the fund accumulated a balance of about $820,000, of which over $385,000 was accumulated during the first four years. Although the income from interest increased during these ten years from about $1,600 to $36,700, and the city subsidy which amounted to only $50,000 the first six years was increased the seventh year to $60,000, next year to $70,000 and for the last two years amounted to $80,000, and the income from arrears has increased to about $20,000 annually, the process of accumula-

tion has been gradually slowing down. In 1907, $107,000 and in 1908 more than $101,000 were set aside from the income and invested, whereas during the last two years only about $72,000 annually had been added to the invested capital of the fund.

The main cause of this decrease in the rate of accumulating a reserve was the rapid growing of disbursements on account of annual additions of new pensions. During 1907 fifty pensions were granted and two were terminated during the same year on account of death. During the next seven years as many as 340 pensions were added to the original number and only fifty-two were terminated on account of deaths and fourteen from other causes. The number of pensions, therefore, increased from 48 in 1907 to 371 in 1916.

As a result of this increase the disbursements each year required a greater proportion of the annual income as shown in the following chart:

Year	Percentage of Income Expended on Pensions	Percentage of Income set Aside
1907	8.5	91.5
1909	35.5	64.5
1911	51.6	48.4
1913	58.7	41.3
1915	63.6	36.4
1916	69.4	30.6

The disbursements will continue to increase more rapidly than the receipts, because the number of new retirements added each year to those already granted will not be counterbalanced by terminations. It takes a retirement fund about sixty years to strike this balance. The Philadelphia fund in its present form, however, cannot survive sixty years, for its income is inadequate and the fund will soon be depleted.

It will take but a few years for the growing disbursements to catch up with and exceed the income. After the fund has reached the crisis, it will rapidly expend the reserve accumulated during earlier years and will be unable to pay full benefits and grant new retirements. This danger was realized by the retirement board as evidenced by a recent

report in which the board says that while the fund will be able to meet its future liabilities for some years to come, its more remote future is not reassuring. "The Retirement Board has undertaken an appraisement of the fund, employing for the purpose competent actuarial service." The thought that guided the board in taking this action is stated in the following words:[1]

In reports for preceding years the apparently rapid accumulation of the reserve fund has been cited as seeming to indicate the stability of the fund, and, while attention was directed to the consideration that 'a score or more years must elapse before what will constitute normal demands upon the fund may be very definitely ascertained,' the opinion was ventured that it would be able to meet its future obligations. There is no question but that it can do so for some years to come. Recent developments, however, in connection with other systems analogous to our own and whose experience, therefore, furnishes us with some indication of the probable course that funds so constituted must take as the years go on are not reassuring for the more remote future.

The financial and other weaknesses which have developed in a number of state and city funds and in some systems under other than public auspices have greatly stimulated study of the whole question and it has been discovered that a large number of the existing pension systems of the country are not upon a basis recognized as sound when assets and liabilities are computed in accordance with accepted actuarial principles; and, apart from the question of solvency, that many systems are not organized so as to promote most effectively the ends for which they are designed.

The findings of this report and the results of other studies that are now available clearly indicate that the question of the solvency of any fund should not be permitted to rest upon estimates which the future may prove to be wide of the mark, but should be ascertained by exact actuarial appraisement of its assets and liabilities. It is a satisfying assurance when such an appraisement results in the verdict that a fund is solvent and that its present and anticipated resources are such that it may be expected also to continue so. It is, of course,

[1]Annual Report of the Philadelphia Retirement Board, 1916, p. 22, 23.

far from satisfactory, but even more important that the fact be ascertained, if the verdict be that the fund is heading toward disaster. There are possibilities of distress attendant upon the collapse of a retirement fund that one cannot contemplate with equanimity, and for this and other reasons a system found to possess elements of weakness should be revised in whatever direction and to whatever extent may be necessary in order to place it upon an unquestionably sound basis.

Asked as to the changes in the system, which he would believe advisable, one of the officers of the fund said:

In accordance with the probable findings of the actuarial report, it will be necessary either to scale down the benefits, increase the contributions or make revisions of the system in both directions in order to place it upon a sound financial basis.

A revision of the system in my judgment should include the following:

(a) Elimination of the 'service' provision of superannuation retirement, i. e., have the superannuation retirement determined by age only, the years of service factoring merely as determining the amount of the retiring allowance.

(b) Possibly an advance of the superannuation age beyond the present requirement, age 60.

(c) Provision for a minimum disability benefit.

(d) The establishment of a greater difference between the disability benefits and the superannuation benefit than is now provided in the system.

(e) Provision for a refund benefit. Under the present regulations the contributions of those who separate from the service (except in the case of those dismissed for cause) are forfeited. There has been little objection raised to this partly because the rate of contribution is not large. If the system were on a sound financial basis rates of contribution would be much larger and the amount forfeited would therefore be more considerable.

(f) More definite provision as to the amount of contribution to be made by the Board of Education.

(g) The system should be established on a reserve basis instead of on the present cash disbursement basis.

In November, 1918, a report was submitted to the retirement

board by the actuary, which showed that the fund had a deficiency of approximately $9,000,000 (liabilities of $13,000,000 against assets of $4,000,000) and "will ultimately not be able to pay more than 31 cents to annuitants for every dollar expected." The report showed that it would be to the best advantage of the teachers and of the city if they merged their fund with the newly created state fund.

Cleveland Teachers' Pension Fund. Cleveland is one of the twenty cities in Ohio which has availed itself of the state law, 1896-1911, which enabled any city to establish a pension fund provided one-third of its teachers approved it. When in 1906 the proposal was made in Cleveland to establish a pension fund, 797 teachers voted for and 713 against. Since the number of votes in favor of the creation of the fund was more than what the law required, the system became operative in spite of the large opposition. The teachers already in the service at the time of establishment of the fund were given an option to join or not to join. For all new entrants into the teaching force membership was made compulsory.

The board of trustees is composed of six members; two members elected by the board of education and four elected by the members of the fund.[1] Support is derived from two sources—the teachers and the city. The teachers contribute $2 per month, and must pay a total of $20 for each year of service for which they claim credit, up to the amount of $600. In case a retiring teacher has not paid this amount, his pension is reduced 20 per cent until the required amount has been contributed. The city pays into the fund not less than 1 per cent or more than 2 per cent of the gross receipts of taxation raised for school purposes.

A teacher may retire after 30 years of service, one-half of which period must have been served in the schools of Cuyahoga County, and is entitled to a pension of $12.50 multiplied

[1]Cleveland Teachers' Pension Fund, Rules and Regulations, 1914. 16 p.

by the number of years of service, up to a maximum of $450. In case a teacher is disabled after 20 years of service, one-half of that time having been served in Cuyahoga County, he is entitled to a pension at the above stated rate. In the event of resignation or dismissal, the teacher or his dependents are entitled to a refund of one-half of his contributions without interest. In the event of dismissal before 20 years of service, the teacher is entitled to a return of all his contributions. In the event of dismissal after 20 years of service, the teacher is entitled to a pension for the given years of service.

The financial effect of the provision allowing credit for outside services is discussed in W. A. Jessup's report on "The Teaching Staff of Cleveland," which is a part of the education survey conducted by the Cleveland Foundation in 1915. Mr. Jessup writes:

There is another reason why the school system should exercise great care in bringing into the force teachers who are no longer young. This is the serious effect which the employment of such teachers will have on the future of the pension fund. Figures for 10 recent appointments of teachers from outside of Cleveland show that their average is 43 and that they have had an average teaching experience of 16 years. With respect to the future of the pension fund, there is a great difference between the employment of such a teacher and bringing into the force a teacher who has recently graduated from a normal school and had a year or two of teaching experience.

Some idea of the quantities involved may be gained from a study of the actuarial tables presented in the report of the Teachers' Retirement Fund of New York City published in 1915. A comparison of age and experience figures for the teaching forces of Cleveland and New York, shows that the lower quartile for the distribution showing the ages of the Cleveland teachers exactly corresponds with the similar figures for those of the teaching forces of New York City. Similarly the corresponding figures of the distribution showing the teaching experience of the teachers here correspond with those showing the teaching experience in New York City. Hence we may feel fairly safe in using the New York actuarial

tables in making a prediction concerning the teaching force in this city. On this basis we may study the probabilities concerning the teachers who enter the Cleveland force at about the age of 21 as compared with those of teachers brought in at about the age of 43.

Such a comparison shows that only about one-third of the teachers entering at the younger age will remain in the teaching profession long enough to qualify for a pension. On the other hand, eight out of nine of those who come in at the age of 43 will complete their term of service and will be eligible for pension benefits. Taking into account the payments to the fund made by all of the teachers entering at the different ages, the refunds made to those who resign, the proportion of survivors who become eligible for pensions, and the expectancy of life after beginning to participate in the pension benefits, a careful computation shows that the sum involved by the pension fund for teachers employed at the age of 21 amounts to about \$130 for each year of teaching service actually rendered, while the corresponding risk for teachers employed at the age of 43 amounts to about \$330 for each year of teaching service actually rendered.

The board may prorate the pensions if the fund proves insufficient. In 1916 the fund had a membership of about 1,800, a capital of about \$400,000 and a pension roll of about 100 beneficiaries.[1]

The statistical data for the years 1911-1917 are shown below:

Year	Teachers' Contributions	Taxes	Interest on Investments	Pension Disbursements	Annual Surplus (Excess of Income Over Disbursements)
1911	\$16,150	\$34,716	\$6,439	\$18,900	\$36,020
1912	24,186	34,606	8,571	22,945	46,630
1913	30,466	35,565	11,450	26,499	49,567
1914	33,212	38,526	13,521	29,755	58,367
1915	35,225	42,139	17,455	35,356	58,913
1916	37,444	43,915	20,201	39,901	58,253
1917	43,025	47,460	23,840	49,478	61,133

Boston Teachers' Retirement Fund. At the establishment of the fund in 1900[2] only a very inadequate attempt was

[1]With the enactment in May, 1919, of a sound state retirement system in Ohio (which is discussed in Chapter XVIII) an opportunity is given to the Cleveland and other local pension funds of Ohio to merge with the state system at any time.

[2]Massachusetts, Acts, 1900, ch. 237, April 7.

made to ascertain whether or not the income with which the fund was provided would accumulate sufficient assets to meet its liabilities.

The fund was provided with a revenue consisting of teachers' contributions of $18 per year and of payments by annuitants whose total contributions amounted to less than $540. Upon retirement after 30 years of service or at disability, an annuity was granted, if applied for, the amount of which was to be determined by the board of trustees each year, in accordance with the financial condition of the fund. At resignation of a member, one-half of his contribution was refunded, if applied for within three months.

Membership in the fund was made compulsory for all new entrants into the service and optional for those already in the service. Of the latter 1,256 have elected to become members.

The fund was divided into two parts: a "permanent fund" which consisted of the members' contributions, "gifts, legacies and sums set apart by the board of trustees; and a "general fund" which was formed of the contributions of the members, the interest from the "permanent fund," the moneys left by deaths and resignation of members, and the payments by the annuitants to complete $540.

The board of trustees and its committee on finance were of the opinion that by dividing the income between the two funds they would always be able to determine "between what limits the fund may be safely and justly used in the payment of annuities." "By this system," the report of the finance committee of 1902 said, "it will be seen that the fund is always solvent." The actual experience of the fund, however, proved later on that through error of judgment as to the rate of annuity which could be allowed the fund failed to be solvent.

The method adopted by the board of determining what annuity the fund could afford to pay was rather crude. In 1901 the board of trustees decided that "the fund would

allow" \$150. In the year 1903 the board of trustees decided on \$168. In 1904 it decided that the condition of the fund warranted the payment of \$180. Since that year and up to 1914, \$180 was the annuity paid.

During the fourteen years from 1900 to 1914 the number of annuities increased from 7 to 249, and the annuity roll increased during the same period from \$329 to over \$45,000. The membership of the fund exceeded 2,600 and its balance at the end of that period amounted to about \$392,000.

In the year 1914 three members of the Massachusetts Commission on Pensions, which was appointed "to report fully and in detail the various systems under which pensions are now paid" in Massachusetts, made an investigation of the fund. Mr. H. D. Brown, the actuary of the commission, reported that his estimate of the assets and liabilities of the fund showed a deficit in the fund of \$1,312,687 and that the fund would not be able to meet its future liabilities on the basis of a \$180 annuity.

The board of trustees immediately engaged Mr. W. J. Montgomery, the state actuary, to investigate and report what amount of annuity the fund could afford to pay. He reported on September 14, 1914, that the condition of the fund was such that an annuity of only \$81 could be paid existing and prospective pensioners in return for the annual contributions of \$18 without incurring a deficiency, and that if the payment of \$180 were continued to the members already retired, then only \$61 could be paid to the members who might be retired after 1914.[1]

Finding that the uniform contribution of \$18 per year, regardless of age, was inadequate and unsound and could not safely guarante even a reduced annuity of \$81, the actuary recommended that legislation should be secured by which the contributions might be increased and graded according to age and that a gradual reduction of annuities, say \$25 or \$30 each

[1]Report of the State Actuary to the Board of Trustees, 1914. 14 p.

year, should be adopted until such time as the fund shall be on an adequate basis.

Upon the receipt of this report the board of trustees decided to reduce the annuities to $132 and a year later it further reduced the annuities to $120.

The annual report of the board for the year 1917 contains the following passage:

> At the December meeting of the Board at which the rate of annuity for the ensuing year is annually established, the question what annuity our Fund will allow to be paid to our annuitants, year by year without affecting its solvency, which has, of late greatly interested our Board of Trustees as well as our annuitants and our contributing members, came up for consideration, some members of our Board believing that even our reduced annuity of one hundred twenty dollars was too large and that the annuity should be still further reduced. After some discussion it was finally voted to make no change, and for the year 1917 to continue the annuity rate at one hundred twenty dollars a year[1] the same as in 1916. The rate of annuity for the year 1918 will be fixed at the regular monthly meeting of the Trustees next December.

Boston Teachers' Permanent Fund. An act of 1908[2] provided for the creation of this fund from city revenues, and the inclusion in it of the members of the contributory retirement fund just described, which had been established in 1900. Taken together, the annuity of $180 from one fund and the pension of one-third salary from the other, the combined benefit amounted to half salary. The pension could be granted only after 65 years of age and 10 years of service or at disability.

The fund was provided with an income consisting of a city contribution of five cents for each $1,000 of assessed valuation of taxable property. This income which had but a slow rate of increase, as compared with the rapidly increasing pension expenditure, could not remain long adequate. It took the

[1]The capital of the fund at that time amounted to about $486,000.
[2]Massachusetts, Acts, 1908, ch. 589, June 3.

fund only six years to develop an excess of expenditure over income as shown in the following table.[1]

Year	Receipts by Tax Valuation	Expenditure on Pensions	Surplus	Deficit
1908	$63,891	$1,678	$62,213	....
1909	65,043	8,075	56,968	....
1910	66,194	26,247	39,946	....
1911	67,770	55,350	12,420	....
1912	70,192	64,510	5,681	....
1913	72,012	72,889	....	$876

In order to cover the deficiency, the fund was forced to draw upon its balance which amounted in 1913 to about $189,000, and which would have been expended during the next four or five years had the fund continued to operate with the same income.

At that critical stage in the development of the fund, the estimate of the condition of the fund by the Massachusetts Commission on Pensions was made. The report of Mr. H. D. Brown, the actuary of the commission, showed that the fund had a deficiency of $3,700,000, which would have to be provided for if the fund was to operate on a reserve basis.

The actuary also estimated what the ultimate cost to the city would be if the fund should operate on a cash disbursement basis, appropriating the necessary amount directly each year as it came due. He found that for the same number of members and same size of payroll, the annual cost to the city in pensions, which in 1913 equaled only about 2 per cent of the amount expended that year in salaries, would increase for the next sixty years, reaching as much as 12 per cent of the amount expended in salaries. Not before sixty years would the fund reach the normal level at which new pensions would be counterbalanced by terminations on account of death. The cost to the city would then normally remain at the high level of 12 per cent.

The only immediate effect of the report was that a law was passed in 1915 increasing the income of the fund from five to seven cents per $1,000 valuation. The fundamental

[1]Massachusetts, House Docs., 1914, No. 2450, p. 49.

question whether the fund should be operated on a reserve or cash disbursement basis was left undecided.

The increase of the fund's income could give the fund only temporary relief. The increase amounted to about $30,000 and raised the 1915 income to about $105,000. Out of this amount, however, as much as $90,000 had to be expended on pensions during that year, leaving an unexpended balance of only about $15,000.[1]

In the year 1917 an act was passed by which the fund became subject to the reimbursement provisions of the law of 1913. The state reimburses the city with practically the entire amount of newly granted pensions, as may be seen from the following statement:

Year Ending July 1	Amount of Pensions Paid by the City	Reimbursement by State	Balance Paid by City
1915	$8,782.55	$8,637.68	$144.87
1916	16,132.59	15,684.28	448.31

It would, therefore, appear that in the course of time as the old pensioners, retired before July 1, 1914, die, and are dropped from the pension roll, the city will receive from the state in reinbursements practically the entire amount it will pay for pensions, and the state will bear practically the entire burden, which, as already shown, will increase from year to year, because no reserve is provided against the future payments.

Baltimore Teachers' Retirement Fund. This fund is managed by a board of trustees which consists of the city comptroller, the superintendent of instruction, two members of the board of school commissioners, and three members elected by the teaching force. The fund derives its support from a contribution by the teachers and from a discretionary appropriation by the city. The teachers contribute 1 per cent of their salary (max. $14.40) during the first 10 years of their service, 1½ per cent (max. $21.50) the next 10 years

[1]Annual Report of the Fund, 1915. In the Minutes of Evidence of the Boston School Committee, 1916, Feb. 21, p. 19.

and 2 per cent (max. $28.80) thereafter. They must contribute in total an amount equal to one year's pension before they can retire, otherwise their pension is reduced.

After 40 years of service, 20 of which must have been served in Baltimore, a teacher is entitled to retirement (provided the approval of the board of trustees of the retirement fund is secured) on a pension of one-half of the average salary of the last 5 years, minimum $260 and maximum $600. Proportional pensions are paid at disability after 20 years and a refund of one-half of the member's contributions is made at resignation, dismissal or death after any length of service.

In the year 1909,[1] when the fund was established, no retirements were made and no expenditures were incurred. That year's receipts, amounting to about $14,000, remained in the fund. The first pension expenditure made in 1910 amounted to only $7,670 which was considerably less than the amount of the teachers' contributions. The excess of the latter over the expenditure was increased by the city's $3,000 appropriation. During the third year, however, the pension expenditure more than doubled, thereby exceeding the amount of the teachers' contributions. The total receipts, including these contributions, interest on bank balances and the city's $3,000 appropriation, resulted in only a very slight additional balance. During the fourth and fifth years the rapidly increasing disbursements forced the city to increase its appropriation from $3,000 to $8,200 and $9,100 respectively. Since the receipts from members' contributions increase much slower than the disbursements of the fund, as shown in the following table, it is evident that the city will be called upon to grant the fund higher and higher appropriations each year.

Year	Contributions of Teachers	Interest	City Appropriations	Pension Roll
1909	$11,227	$56	$2,780	No
1910	16,684	781	3,000	7,670
1911	16,913	940	3,000	18,418
1912	17,844	1,082	8,200	23,046
1913	19,022	1,307	9,100	26,330

[1]Maryland, Acts, 1908, ch. 78, March 12.

The investment of the fund amounted in 1913 to about $33,430.

Buffalo Teachers' Retirement Fund. Among the teachers' retirement funds in this country, that of Buffalo is one of the oldest. The law of 1896,[1] by which this system was established, provided that the fund should consist of contributions from teachers, the amount of which should not exceed 1 per cent of their salaries. A teacher who served 40 years, if a man, and 35 years, if a woman, was entitled to retirement on a pension not exceeding one-half his final salary. The retirement board consisted of the mayor, the superintendent of education, the chairman of the board of school examiners, the president of the Principals Association and the president of the Women Teachers Association.

After about ten years of operation, during which the fund accumulated a balance of about $72,000, the disbursements of the fund exceeded its receipts. In view of this excess of disbursements over receipts an amendment of the old law was secured in the year 1909, which increased the teachers' contributions up to 2 per cent of salary and authorized the city to contribute an amount equal to that contributed by the teachers during the preceding year.[2] At the same time the benefits were made more liberal by reducing the required length of service to 35 and 30 years for men and women respectively.[3] The provision of the law of 1896, allowing the board to use not only the income but also the principal of the fund, and to reduce the amount of pension if necessary, remained in force.

The increase of the teachers' contributions and the addition of a new source of revenue in the form of an annual appropriation, which has been fixed by the city at $10,000 since 1909, have temporarily averted an exhaustion of the fund

[1]New York, Acts, 1896, ch. 928.
[2]New York, Acts, 1909, ch. 554, May 28.
[3]For detailed provisions of the law see table on page 303.

and have permitted the fund to increase its principal, which in 1915 amounted to about $130,000. As the disbursements of the fund will continue to increase (they already exceed the amount of the teachers' contributions) the city will be compelled either to increase its appropriation or to draw upon the principal of the fund or reduce the amount of pension. By doing so, it may prolong the existence of the fund for a short time, but ultimately it will have to be reorganized.

One of the latest developments in the system is the preparation of an actuarial estimate of its assets and liabilities. It showed that the total liabilities of the fund amounted to about $3,800,000, of which about $400,000 represented the liability on account of the ninety-eight pensions, which aggregated about $40,000 annually. The assets of the system amounted to only about $800,000, leaving a deficiency of $3,000,000. The actuary reached the following conclusions:[1]

If no change is made in the contribution, it will not be long before reductions will have to be made and the beneficiaries of these funds must either face a complete readjustment or still be in doubt as to the exact amount of their pensions, having only the very unsatisfactory knoweldge that eventually the annuity payments will be exceedingly small.

We would suggest, first, that an opportunity be given to the employees to express an opinion as to whether or not they desire a continuation of these benefits. It may be that a majority would prefer to have the law revoked and then make provision for their future as individuals. It might be well to admit that the scheme was ill-conceived and all parties agree to undo as far as possible what has been done and abolish the different funds (teachers', police and firemen's funds) by having the city return to the employees the deductions made in the past from salaries, while at the same time assume the responsibility of continuing the pension for those now receiving benefits.

If an employee were told that the benefits called for in the law could not be paid and that consequently he was receiving

[1]Report on the Firemen, Police, and Teachers' Pension and Retirement Funds, March 3, 1917.

back his contributions, he would at least feel as though he were being treated fairly. Those who are now on pension could have no complaint, as their benefits would be continued.

If it is preferred not to abolish the funds, but to make a readjustment, it ought to be on some permanent basis. Each member should receive a certificate stating that he is a member of this association and that in consideration of such and such a payment by him, accompanied by such and such a contribution from the city, benefits will be granted in accordance with the terms thereof. This is similar to the action of an insurance company which issues its definite guarantee to its policyholders in the form of a contract and which then places all its resources behind the contract.

New Orleans Teachers' Retirement Fund. The system of New Orleans has been in operation only since 1910,[1] yet it has already met with difficulties. Up to 1913 the fund was supported only by the teachers. They contributed 1 per cent of their salary the first 10 years of service and 2 per cent thereafter. The fund provided benefits of one-half of the average salary of last five years (min. $300 and max. $600) upon retirement at age of 65 or after 30 years of service, 10 years of which must have been served in the city, and it paid proportional pensions at disability. One-half of the teachers' contributions were refundable at death or resignation, and the full amount at dismissal.

After three years of operation the disbursements of the fund exceeded by about $4,000 its receipts from teachers' contributions and from the interest on the deposits. To cover this deficiency the city appropriated $580, a donation of $180 was secured and a festival was arranged, the proceeds of which amounted to about $1,600. Still a deficiency of about $1,500 remained uncovered. The fund had to draw upon its capital, thereby reducing it from $18,000 to $16,500. Next year (1915) the disbursements, amounting to about $18,860, exceeded the regular receipts by about $5,000. This deficiency was covered by securing an appropriation of $1,000

[1]Louisiana, Acts, 1910, ch. 116.

and by borrowing $5,000 from the board of school directors. In 1917 the pension disbursements amounted to approximately $23,000 and exceeded the regular revenue from teachers' contributions and interest by more than $10,000. The deficiency was covered by raising $5,000 "from proceeds of educational day, farm and live stock show," $4,000 from sale of waste paper, $200 from royalties on spelling lists, and $1,900 from an appropriation by the city. The capital of the fund was still further reduced to $11,120. It is evident that the fund cannot exist long under these conditions.

In 1918 a bill was prepared and its passage secured by which the Orleans Parish School Board was required to appropriate at least as much as the assessment paid by teachers, and further, the rate of assessment paid by the teachers, which ranged between 1 and 2 per cent, was changed to 3 per cent. One of the officers of the fund says: "By the provisions of this law we will receive annually about $60,000, and as we are now paying retired annuities of about $24,000, we feel that in a short time the fund will be placed on a stable basis."

Denver Teachers' Retirement Fund. This system, established in 1909,[1] is supported by the city by a special levy amounting to a maximum of one-tenth mill. The teachers do not contribute. Men may be retired on a pension of $360 at age of 60, and women at the age of 55, provided they have served 25 years, 15 of which must have been served in the city, or at disability after at least 10 years of service. The granting of pensions depends entirely upon the discretion of the city, which may at any time discontinue granting new retirements. There were sixty teachers on the pension list in 1917. The increase in the disbursements of the fund is shown below.[2]

Year Ending June 30	Disbursements	Year Ending June 30	Disbursements
1910	$180	1914	10,080
1911	3,000	1915	12,600
1912	3,660	1916	16,110
1913	7,200	1917	19,440

[1]Colorado, Acts, 1909, ch. 214, May 5.
[2]On June 30, 1917, the fund had a cash balance of $27,700.

CHAPTER XIV

SYSTEMS WITH INADEQUATE RESERVES: THE CHICAGO FUND

The Chicago Teachers' Retirement Fund presents a history so illuminating as to warrant a treatment somewhat fuller than that accorded the other systems operating with inadequate reserves. This history may be divided into three periods. From 1895 to 1907 the fund was wholly contributory, i. e. supported by the teachers and not subsidized by the city. Part of the teachers supported it but a considerable part opposed it vigorously, and under the pressure of their opposition membership was made optional. The second period started in 1907, when the increasing inadequacy of the fund resulted in a subsidy by the city. The optional feature was changed to a compulsion with certain limitations. The increased contributions of the city temporarily improved the condition of the fund, which, however, continued to operate on an actuarially unsound basis. The third period is now beginning with an attempt to reorganize the system on an actuarial basis.

The Fund Wholly Contributory: 1895-1907. The law which established in 1895[1] a retirement fund for teachers and public school employees of Chicago was passed at the solicitation of teachers' associations. It provided for the establishment of a pension board composed of the board of education, the superintendent of schools and two teachers, elected by the members of the fund, thereby giving the representatives of the city the majority voice. Membership in the fund was made compulsory. The teachers and the public

[1]Illinois, Acts, 1895, p. 312.

school employees were to contribute to the fund a maximum 1 per cent of their salaries. This revenue was thought sufficient to provide pensions of half salary, maximum $600 after 25 years of service. At no time were reliable estimates made of the real cost of retirement benefits. The city was not called upon to contribute any part of the cost, the law explicitly stating that "no taxes shall ever be levied or an appropriation of public money be made for said fund. * * *"

During the first year of the fund, the disbursements amounted to only $4,752. They rapidly increased from year to year as shown in the following table:

Year	Annual Receipts	Annual Disbursements	Annual Surplus (Excess of Receipts Over Disbursements)
1896	$38,500	$4,800	$33,700
1897	40,500	19,400	21,100
1898	45,600	32,700	12,900
1899	54,000	46,300	7,700

The margin between the inadequate revenues and the increasing disbursements became so narrow after four years of operation as to make evident that within a year or two the disbursements would exceed the receipts.

In February, 1900, after the proposal to employ an actuary had been defeated, the board of trustees appointed a committee of five "to study the question and take it up with the teaching force with instructions to investigate and suggest what changes can be made to the pension law so that the same may be put on a sound basis."[1] A few months later the disbursements exceeded the receipts and the question as to the need for an actuarial investigation was again raised, not in the board of trustees but in the pension convention of delegates from the teaching force. The convention resolved that the investigation of the committee of delegates showed clearly "the insolvent condition of the pension fund and its utter inadequacy to meet the obligations that have already been assumed, to say nothing of the caring for future pen-

[1]Proceedings of the Board, Feb. 7, 1900.

sions; and that "it is a great wrong to the contributors as well as those pensioned to continue under the present law," and that it is "the duty of the trustees of the fund to properly protect the contributors;" and requested the board "to take some action to provide funds for employing an actuary to amend the pension law."

The actuary engaged, as a result of this resolution, reported in March as follows:

I find that the contribution of 1 per cent is insufficient to provide such maximum annuity as the law prescribes. I find that in no ordinary case would the contribution of 1 per cent during twenty-five years of service be sufficient to provide an annuity much, if at all, exceeding $50 per annum. For a twenty years' term of contribution this amount would be considerably less, in some cases not one-half of the maximum amount just suggested. * * * Yet the fund has been paying in just such cases pensions ranging between $400 and $600.[1]

The report showed that even if the present contributors were to forfeit all their contributions made theretofore and the capital of the fund could be set aside exclusively for the pensioners already retired, it would barely cover one-sixth of the necessary amount. This would leave contributors not yet pensioned to start anew as if they never had contributed to the fund, and would provide them with only such very small benefits as their future contributions might earn for them.

The actuary pointed to some of the inequitable features of the system, stating in part that "the provision requiring equal contributions for equal benefits is inequitable between contributors of different conditions as to age, term of contribution, term of service, etc. The amount of the annuity or the rate of contributions, or both, should be varied with due regard to these conditions." He submitted recommendations for the amendment of the law and suggested that until the

[1]Proceedings of the Board of Trustees, April 3, 1901.

proposed amendments should be adopted all pensions be reduced to a nominal amount of $5 or $10 per annum.

Membership in the Fund Made Optional. About that time a movement was started among the teachers against the compulsory contribution. It was claimed that participation in the retirement fund was a private not a public matter and that the state had no constitutional right to compel the teachers to contribute. The compulsory principle was branded as "dangerously socialistic."[1] A persistent movement carried on by some of the more violent opponents of the plan finally secured from a majority of the teachers an expression of opinion against it, and in July, 1902, an amendment to the law was enacted, under which any contributor who filed with the board of trustees a notice of his desire to withdraw from the fund could be released.[2] Commenting upon the effect of this law, one of its leading proponents wrote:

> Since that time over one-fourth of the teachers have withdrawn from all share in this sort of insurance, and more are withdrawing every day, thereby reducing the liabilities of the fund. This marks the end of any general interest in a teachers' 'pension' or retiring fund. The 'pension' is a lost cause. The recent reduction of annuities from $600 to $240 is a convincing argument against the system.

While the proponents of the optional system were of course

[1]This attitude was well reflected in an article by Mr. Edward Manley of the Englewood High School in Chicago, which appeared in the Educational Review of 1902, p. 156. The following comments of the writer with regard to retirement funds generally are interesting:

"Only in the case of teachers and other employees of school boards has this form of socialism become law in this country. In some states there are statutes by which a part—generally one per cent—of the salaries of all employees of school boards has been withheld and put into a 'pension fund.' Money thus obtained has been or will be used to pay annuities to those who have resigned their positions after teaching the required number of years. Such legislation is dangerously socialistic and would fail utterly if applied to a less docile and submissive class of our citizens."

[2]The amendment read as follows: "Any public-school teacher or public-school employee, a part of whose salary is now or may hereafter be set apart to provide for the fund herein created by this act, may be released from the necessities of making further payments to said fund by filing a written notice of his or her desire to withdraw from complying with the provisions of this act."

wrong in thinking that they had succeeded in breaking down any general interest in a retiring fund, they had seriously crippled its development for the next few years.

During the period from 1901 to 1907, when the fund operated on a voluntary basis, as many as 2,000 teachers withdrew from the fund, and very few new teachers joined it; and along with the weakening of the fund from outside, an internal destruction was going on. The resources of the fund were falling rapidly and at the same time the disbursements were rapidly increasing on account of the natural but unprovided-for increase in the number of retirements. Pensions were reduced again and again. The first reduction in 1901, which amounted to a sudden drop from $600 to $240, was followed by several further reductions during the next six years. The last reduction, made in 1906, cut the pension down to $135. Still the resources were insufficient. The capital of the fund had to be drawn upon, causing some of its securities to be sold. All these reductions imposed a considerable hardship upon the beneficiaries of the fund and the efficiency of the schools. The loss of confidence in the fund is illustrated by the fact that in one month about 1,000 teachers withdrew.

Soon the teachers themselves realized the seriousness of the situation and started a movement to save the fund which they had so nearly destroyed, and to induce those teachers who had withdrawn to reenter and to bring in those who failed to join during the optional period. They had to secure legislation which would make membership compulsory for all new entrants, thus opposing the principle of voluntaryism for which they had fought in 1901. Through the last sixteen years they have devoted considerable time to two objects: to regaining lost membership, and to securing legislation for city contributions. But they still ignore the important fact that the financial basis of the system is itself unsound and that the remedy lies only in reorganization.

City Contribution and Compulsion for New Entrants Since 1907. During the rapid decline of the fund a movement was started by the teachers' association to secure legislation covering the following points: (1) the city to contribute to the fund; (2) membership to be compulsory for all new entrants; and (3) the members of the fund to have a majority representation in the board of trustees. With this movement the second period in the history of the fund began. No change in the unsound method of operation was contemplated. The recommendations made by the actuary in 1901, to put the fund on a sound basis, were forgotten. It was evident that the majority of the teachers would have opposed any such increase of their contributions as suggested by the actuary.

Two bills were prepared by the teachers' associations, both of which were passed by the legislature on May 24, 1907.[1] One of these provided that the city should contribute to the retirement fund the interest on all school funds. The other struck out the 1895 provision which prohibited the city from contributing to the fund. It allowed all non-contributors until the end of the year to join the fund, provided they paid their back contributions. Besides granting a city subsidy, it offered them the following inducements: (1) all services rendered outside of Chicago were to be credited for retirement, providing the teacher paid contributions for that period; (2) the fund was to be managed by a board of nine, six of whom should be teachers, two members of the board of education, and one the superintendent of schools; (3) the contributions for the younger teachers were to be lower than under the old plan. The scale of contributions was arranged as follows: during the first 5 years of service, $5 annually; during the second 5 years, $10; during the third 5 years, $15, and after 15 years of service, $30. Such a scale tended to attract the younger teachers, who otherwise were not interested in a retirement fund, and to keep away the older teachers

[1] Illinois, Acts, 1907, May 24, p. 529-34. Bills 842 and 843.

who, being nearer retirement, would have imposed upon it much greater burdens. The provisions making membership compulsory for all new entrants assured the fund a considerable yearly increase of membership.

At about this time a considerable difficulty arose with regard to the city's contribution. Although the city comptroller was required by the new law to add to the pension fund the interest on school funds, he withheld this money on the advice of the corporation counsel that the requirement was an unconstitutional diversion of public money to a private purpose.

The teachers' convention thereupon adopted a resolution requesting the board of trustees to institute a suit to establish the validity of the law. Immediately after its organization, the board addressed a letter to the teachers, stating that "in order to make it clear that the payment of money for teachers' pensions is for the benefit of the public and therefore for a public purpose, it will be necessary to collect data to show that in practical operation the pensioning of public employees has proved to be a public benefit."[1] It urged the teachers to sign a petition requesting the board of trustees to obtain from the board of education one month leave of absence for the president of the board of trustees for the purpose of preparing material for legal proceedings, and also of securing before December 31 as many contributors as possible from among the 2,000 teachers not then contributing. The petition was signed by 3,000 contributors and the leave of absence was granted. As a result of the membership campaign about 700 teachers reentered the fund on or before December 31, 1907, and paid in arrears of $32,000 besides their regular annual contributions.

The suit was started on November 19 of the same year, and was won in the lower courts. A year later the same question was raised in reference to all the pension funds in Chicago by an injunction proceeding against the city treasurer

[1]Report of the Board of Trustees, Dec. 21, 1912, p. 13.

to enjoin the payment of any public moneys for pensions to policemen, firemen, teachers and other public employees. Judge Mack sustained the constitutionality of all the pension acts including the interest act above mentioned, in the course of his opinion saying:

The court is clearly of the opinion that the use of public money for this purpose cannot be held beyond a reasonable doubt to be for a private purpose. On the contrary the court believes that the use of public money for the pension fund is an application of it to a public purpose.

He further stated, however, that he did not mean to hold that pension legislation gives its beneficiaries a vested interest.

In 1909 the board of trustees secured legislation which confirmed the interest law of 1907.[1] A provision with regard to credit for outside service was also inserted, which required that at least three-fifths of the service must have been served in the city.

The money paid by the city and the contributions and arrears paid by new members immediately improved the affairs of the fund and permitted the board to increase the maximum pension to $225, and, a few months later, to $250. Although this was still a very small pension, it represented to the beneficiaries a considerable increase as compared with the $135 pension of three years before. A letter addressed by the board to the teachers, dated October 22, 1910, stated that there were at the time 4,870 contributors and 1,420 teachers who did not contribute. "The 1,420 comprise those who had withdrawn from the pension law of 1895 and did not take advantage of the opportunity to become contributors under the law of 1907. Many of those who neglected that opportunity wish to have another granted to them."[2]

No reliable actuarial investigations were made to determine whether the fund would be able to pay the increased pensions. Yet the board stated in its letter that "the policy of the

[1]Illinois, Acts, 1909, p. 384-88.
[2]Report of the Board of Trustees, Oct. 22, 1910, p. 3-4.

trustees has been to so administer the fund that the annuities need never be reduced, and with that object in view, the interests of the teachers just beginning, who may become a risk twenty-five years hence, have been preserved by increasing the invested fund. The reserve fund needs to be increased to $1,000,000. The funds from other sources than teachers' contributions should be augmented. How each is to be done is a matter for the contributors to decide."

The sum consumed for annuities will increase year by year and the income should increase also. The teachers have been generous beyond their means. If the public wishes professional teachers, it must assist in some way to make conditions such that teachers may feel that if they give their whole energy to teaching, they will not come to want when they can work no longer. The majority of teachers have financial responsibilities thrust upon them which renders it impossible to put by a competency for the years of disability, were the salaries sufficient for oneself. The occupation consumes all of the teacher's attention, and with the requirements demanded of them in these changing social conditions, no time is left for giving heed to business investments.[1]

As shown by these quotations the board ignored the fact that the system was fundamentally unsound. While the building up of a million dollar reserve was a commendable enterprise it would not put the fund on a solvent basis but merely prolong its uncertain existence.

Encouraged by their success in the matter of legislation in 1907 and 1909, the board of trustees took steps to secure legislation which would authorize the board of education to contribute an additional amount, and to enable the teachers to join who had failed to do so in 1907. Two bills prepared by it became law on July 1, 1911.[2] The board of education was authorized to make an additional annual appropriation which together with the interest from school funds would equal the total amount contributed by the teachers, and the

[1]Report of the Board of Trustees, Oct. 22, 1910, p. 4.
[2]Illinois, Acts, 1911, p. 511-12.

non-contributors were given one year's time to join the fund on condition that they pay their back contributions with interest.

The next action of the board was to increase the pension from $250 to $300. This increase was adopted on the basis of a report of the committee on increase, dated February 17, 1912, which stated: "We are desirous of giving the whole income to the pensioners as rapidly as possible but, at the same time, do not think it wise to advance immediately to the maximum figure, $400, lest our income may not meet our outgo."[1] Some calculations were made by the members of the committee but these calculations were not reliable and no actuarial investigation or valuation of the assets and liabilities of the fund was made.

The two acts passed in 1911 and the subsequent increases of the fund's resources and of the amount of annuity paid considerably strengthened the once shattered confidence of the teachers in the fund. Within one year more than 500 non-contributors returned to the fund and paid in about $65,000 in "lump sums" (back assessments) and about $14,000 in current contributions.[2] On account of the increase in the rate of the city contribution, the income from this source more than doubled during the year 1912, jumping from $78,000 to $185,000,[3] and the excess of income over disbursements also about doubled, increasing from $93,000 to $182,200. During the four years 1909-1912, the capital of the fund increased 400 per cent, reaching on June 1, 1913, $468,000.

Desiring to find out how many teachers from among the approximately 800 who, having completed 25 years of service were eligible to retirement, would retire if the pension were increased from $300 to $350, and how many more would retire if it were increased to $400, the board sent out a ques-

[1]Report of the Board of Trustees, 1912, Feb. 17, p. 16.
[2]Report of the Board of Trustees, 1912, Dec. 21, p. 44.
[3]Year ending July 1, 1912.

tionnaire. On the basis of the returns, the board decided in December, 1912, to increase the pension to $350.[1] This was the second $50 increase in the same year.

The great activity of the teachers in the matter of obtaining new pension legislation was continued the next year. While the law of 1911 established the principle of equal contributions by the teachers and by the city, the bill prepared by the board of trustees in 1913 authorized the board to contribute twice the amount of the teachers' contributions.

No increase of the teachers' contributions was contemplated, although the average salaries had steadily increased as shown in the following table:[2]

1887	$641
1897	725
1904	812
1907	857
1909	911
1911	988
1913	1,054

The bill became a law on June 26, 1913. It made mandatory upon the city what had been permissive under the law of 1911, the contribution of an amount equal to that contributed by the teachers. It also gave another opportunity, the fourth and the most ample, to enter the fund to those who had not theretofore entered. They were given three years time within which to do so.

Meanwhile the disbursements had continued to increase more rapidly than the income, as shown in the following table,

Year Ending Dec. 31	Annual Receipts	Annual Disbursements	Annual Surplus (Excess of Receipts Over Disbursements)
1912	$298,400	$116,200	$182,200
1913	267,200	157,400	109,800
1914	278,900	185,100	93,800

The excess income of 1914 fell even below that of the year 1910, when the city contributed only interest on school funds. During the following two years, however, the excess income increased on account of "lump sum" payments made by for-

[1]Report of the Board of Trustees, Dec. 21, 1912, p. 52, 53.

[2]Compiled from Reports of Chicago Board of Education, 1909 (p. 101) and 1911. The figure for 1913 was taken from Educational Survey of Cleveland Foundation, vol. on Teaching Staff, 1916, p. 20.

mer contributors who reentered the fund in large numbers before the time limit (July, 1916) expired, and back assessments paid by annuitants who were completing their payments of $450.

First Step towards Actuarial Reorganization in 1917. The move for actuarial reorganization of the fund came from outside the fund. Public opinion in the state began to realize that all was not well with their pension funds. The state appointed a commission in January, 1916 "to investigate the operation of all pension laws heretofore enacted in the state, to gather together all available information as to the present and probable future cost of maintaining the funds created by said laws, and to collect all available information in regard to the operation of similar laws in other states and countries." The commission was authorized to employ actuarial assistance.

In investigating the Chicago fund, the commission found that on account of accrued liabilities the fund had an actuarial deficiency of more than five million dollars, that "this deficiency will increase under the present method of operation" and that "the time is therefore at hand to put the system on a sound financial basis."[1]

After discussing the matter with the retirement board, the commission prepared a bill intended to provide the fund with a more adequate income. Contributions of the members were increased according to the years of teaching experience. Those with 4 years or less were to contribute $15; those with 4 to 8 years were to contribute $25; those with 8 to 12 years were to contribute $30; and those with more than 12 years were to contribute $40.

The aggregate contributions of a member were raised from $450 to $800. With regard to retirement conditions a new provision was introduced requiring that the applicant be at least 50 years of age.

[1]At the same time the commission noted that the fund is in better financial condition than most of the funds in the state.

There was little in these two provisions that could arouse the enthusiasm of teachers. Another provision which, however, made the bill more acceptable to them was the requirement that the city must (not merely might as heretofore) contribute twice as much as the teachers. The result of the bill would thus be that while the teachers would have contributed about two and a half times as much as before, the city would have contributed at least five times as much.

The fact that the increase of these contributions was doubly compensated by the increase in the city's contributions was, however, little discussed by the teachers. The attitude was taken that the bill required new sacrifices of them and that they should agree to it only on the condition that another bill which they themselves prepared providing for their tenure of office (a matter then greatly discussed) was passed. A committee was appointed and the necessary funds for their work provided, to request of the legislature that the tenure of office bill should first be passed, and unless passed, to refuse to support the pension bill. The pension measure was not discussed on the ground of principle.[1] It was viewed merely as a tool for securing another measure, the merits of which had really nothing to do with the pension issue.

Several features of the old system, the change of which would be very desirable from a broad social point of view, were left unchanged in the bill. In the first place the tontine feature was preserved under which the teacher who resigned or was dismissed before 15 years of service forfeited one-half of all he contributed and all the interest on that amount; the teacher who resigned or was dismissed after 15 years of service forfeited all, not merely half, of his contributions; and the dependents of the deceased teacher had no claim to his contributions. The abolition of this tontine feature and the establishment of a savings feature instead of it would have

[1]Reports and Circulars in the Proceedings of the Board of Trustees, Feb. and March, 1917.

required still larger contributions from teachers and would have therefore met with opposition.

In the second place the composition of the board in which the public officials were in the minority, although the major part of the fund's money would have been contributed by the public, was preserved apparently because a change in it would have raised vigorous objections from the teachers.

In the third place, no change was made from a "flat" to a "graded" annuity, because the latter, although highly desirable from the point of view of efficiency of service and public interest, was not popular with the majority of the teachers. Furthermore, the age limit was fixed rather low, still allowing early retirements, and the provision allowing the board to prorate benefits was maintained, thus showing evidence that even under the new bill the sound operation of the system was not altogether assured.

The bill in no way provided for a sound system. It can be regarded only as an attempt to mend the affairs of an unsound system in such a way as to meet the traditions and prejudices which have grown up during its operations.

CHAPTER XV

THE MASSACHUSETTS FUND, THE FIRST SCIENTIFIC SYSTEM; THE CONNECTICUT FUND

Of all the teachers' retirement systems in this country the Massachusetts system was the first to be reorganized, at least partly, on an actuarial reserve basis. The contributions of the teachers are deposited to a reserve, whereas the contributions of the government are immediately disbursed. The system operates, therefore, on what may be termed a "semi-reserve" basis.

History of the System. The first state-wide teachers' pension legislation enacted in Massachusetts was embodied in a law passed in 1908,[1] since superseded by the law of 1913, described below. This law was effective only in cities and towns where, upon petition of not less than 5 per cent of the voters, it had been submitted at the following city or town election and accepted. Under this act the school committee of such a city or town could retire any teacher who was 60 years of age or over and had served 25 years, granting him a pension not to exceed one half of his salary (max. $500). No contributions were required from teachers. The system was to be operated on a purely "cash disbursement" basis, the amount needed for the payment of pensions being appropriated each year.

The cities and towns of Brookline, Cambridge, Dalton, Framingham, Hardwick, Lynn, Marion, Milton, Nahant, Pittsfield, Swampscott, Wareham, Wellesley and Winchester availed themselves of this act.

[1]Massachusetts, Acts, 1908, ch. 498 and ch. 589.

In the year 1910[1] a report on old age pensions, annuities and insurance was issued by a state commission which had been appointed in 1907. It contained considerable data on social insurance, annuities and pension systems in this country and abroad, and gave a considerable impetus to the pension movement in Massachusetts.

In accordance with a resolution of the legislature in 1911, requesting the board of education to investigate the advisability of establishing a state-wide retirement system, a report was submitted in 1913 which stated in part:[2]

A careful examination of the methods and results of providing retirement allowances for teachers in other states and countries and of the conditions peculiar to Massachusetts, leads the board to the conclusion that if general legislation is to be enacted providing for the payment by the state or local community of retirement allowances to superannuated teachers, such legislation should be based on the general principles of social insurance as given effect in the act providing retirement allowances for state employees (under act of 1911).

The report explained the principle of social insurance to be substantially as follows:

By means of state legislation and under state administration or at least supervision, designated classes of persons are required to insure themselves against loss or decrease of earning power due to age, accident, invalidity or other similar contingencies. The person insured is required to make contributions in amounts varying according to circumstances, towards meeting the cost of this insurance; and he also shares in a measure in the administration of the funds established for that purpose. That part of the cost of the insurance which is not met by the contribution of those insured is usually provided by the state and by the employing authority in shares varying according to conditions existing in the employment.

A bill for the establishment of a retirement system embody-

[1]Massachusetts Commission on Old Age Pensions, Annuities and Insurance, Jan., 1910. Mass. House Docs., 1910, No. 1400, 410 p.

[2]Massachusetts Board of Education. Special Report on Teachers' Retirement Allowances, Jan., 1913, p. 6. (In Mass. House Docs., 1913, No. 1926.)

ing these principles was submitted together with the report and was passed on June 19, 1913, to go into effect on July 1, 1914. The law was subsequently amended in the years 1914, 1915, 1916 and 1917.

Provisions of the System. The law applies to all teachers, principals, supervisors and superintendents employed in public day schools[1] within the commonwealth, outside of Boston, which has a separate system.

The law provides that any teacher may retire voluntarily after reaching 60 years of age and receive the retirement benefit. Membership in the fund is made compulsory for all teachers entering the service after July 1, 1914. Those already in the service may enter the fund upon application. Of the latter 6,185 joined the fund before the end of the year 1914.

The system consists of two funds: the annuity fund constituted by the teachers' contributions, and the pension fund consisting of state appropriations.

The annuity fund is put squarely on an actuarial reserve basis, and this constitutes doubtless the most important feature of the system. In this respect the first report of the board says:[2]

> As many pension systems throughout the country have come to grief through lack of sound foundation, the Massachusetts law provides that the retirement system shall be on a strong financial and actuarial basis. By law, reports are to be made to the state insurance commissioner and the latter ex-officio is a member of the teachers' retirement board. The retirement system is operating upon the mortality table used by most of the life insurance companies doing business in this commonwealth.

The contributions of the members are paid into the annuity fund and carried to their respective accounts. They accumu-

[1]This does not include industrial schools, the teachers in which come under the provisions of the law granting retirement allowances to state employees generally.

[2]Massachusetts Pub. Docs. 1915, No. 109, p. 7.

late with interest[1] and constitute for each member an individual reserve from which his annuity is eventually paid. The amount of the contribution is determined, as stated, according to mortality tables.

The annual rate of contributions is fixed by the retirement board on July 1 of each year, but must neither be less than 3 per cent of salaries nor more than 7 per cent in any year and not less than $35 nor more than $100. The board adopted the 5 per cent rate in 1914, and in 1915 it stated that "as the 5 per cent rate seems to meet with the approval of practically all of the members of the retirement association it is probable that the 5 per cent rate will be continued indefinitely."[2]

The law provides that no person shall contribute a larger sum than is necessary to purchase an annuity of $500 at age 60, or $600 at age 65, or approximately $750 at age 70.[3]

Teachers appointed before 1914, who have served at least 15 years in the state, receive the same pension as if they contributed for thirty years. The minimum retiring allowance, consisting of the annuity plus pension, is moreover fixed at $300.

A disability clause, effective July 1, 1917, provides for

[1]The original law provided that interest should be credited at 3 per cent. An amendment adopted in 1916 provided that the interest actually earned shall be credited. Four per cent. was earned in 1916.

[2]Bulletin No. 2, 1915, p. 6.

[3]"A teacher may determine approximately what his own annuity will be by multiplying his accumulated assessments by certain percentages at different ages of retirement. At age sixty the annuity will be approximately 9.38 per cent of the accumulated assessments; at age sixty-one, 9.71 per cent; at age sixty-two, 10.07 per cent; at age sixty-three, 10.45 per cent; at age sixty-four, 10.86 per cent; at age sixty-five, 11.31 per cent; at age sixty-six, 11.78 per cent; at age sixty-seven, 12.29 per cent; at age sixty-eight, 12.84 per cent; at age sixty-nine, 13.43 per cent; and at age seventy, 14.07 per cent."

"Examples—X joins the retirement association in 1914 at age thirty. If he contributes $35 per year for thirty years his accumulated assessments will amount at 3 per cent interest to $1,683.87. If he retires at age sixty his annuity, derived from his own contributions, will be 9.38 per cent of this amount, or approximately $157.95. Under the law he is entitled to a pension of equal amount from the state treasury, making the total retiring allowance approximately $315.90."—Massachusetts Retirement Board, Bulletin 2 (1914).

disability retirement after 20 years of service upon a smaller retiring allowance. A refund of teacher's own contributions with interest is provided upon death, resignation or dismissal. Refunds are made in one sum if withdrawal takes place before six annual contributions have been paid; otherwise in four annual instalments. Some withdrawing teachers have left their contributions on deposit as they expect to reenter the service at some future date. Another interesting feature is that a member may select a smaller annuity for himself with the provision that any balance of his contributions with interest may be paid to his legal representatives in case he dies before the total amount of annuity payments received equals the amount of his contributions with interest to the time of retirement.

After consulting with the insurance commissioner, the board adopted as the basis of its computation of the probable mortality of the members of the fund the American experience table, the standard table prescribed for life insurance companies doing business in Massachusetts. The law provides, however, that the board may change the mortality table from time to time. If this table represents the true mortality rate of the members, and if the assumed rate of interest is realized by investments of the fund, the fund is absolutely solvent.

It will undoubtedly be necessary for the board in the near future to change the mortality table because the recent experience of England and that of the city of New York proved that the mortality of the teachers is lower than that obtaining among the population at large and that their annuities therefore cost more. Whereas the American experience table shows that a person 60 years of age is expected to live 13.4 years longer, the New York City experience shows that a teacher 60 years of age is expected to live only 12.7 if a man, but as many as 16.5 years if a woman.[1] Since the women teachers are greatly in the majority it is evident that the differ-

[1]New York City Commission on Pensions. Report on Teachers' Retirement Fund, 1915, p. 38.

ence between the American experience mortality rate and the teachers' mortality rate is considerable.

The management of the fund is entrusted to a board of seven members, consisting of the insurance commissioner, the bank commissioner, the commissioner of education, three representatives elected by the members of the fund, and one other person elected by the six members first mentioned. It is evident that inclusion in the board of the insurance and bank commissioners will assure the fund a proper financial management. The board has elected a secretary well acquainted with actuarial problems.

The report of the retirement board, as of December 31, 1916, states that the membership of the fund was 9,667. Of these 1,591 entered the service for the first time in 1916. Two hundred twenty-six members were on the retired list and the annual retiring allowance for the year amounted to $85,078, of which only $837 was derived from contributions from the 115 members who paid assessments before retiring, and the balance was derived from state appropriations. The total capital of the association amounted to $824,105.

State Appropriation Not On a Reserve Basis. The weak point of the Massachusetts system lies in the fact that the state appropriation for pensions is not carried on a reserve basis. The state merely appropriates each year the amount needed for the payment of pensions for that year. This will naturally result in a comparatively small cost to the state in the beginning and a considerably heavier cost in the future, as shown by the following rough and probably high estimate made in the board of education's report of January, 1913.[1]

Years	Annual Cost to the State				
1914-20.	From	$75,000,	increasing	to	$120,000
1920-30.	"	150,000,	"	"	300,000
1930-50.	"	250,000,	"	"	400,000

Connecticut Teachers' Retirement Fund. Outside of an act incorporating the Connecticut Teachers Annuity Guild,

[1]Massachusetts House Docs., 1913, No. 1926, p. 17.

which is a private association, the only retirement legislation that was placed on the Connecticut statutes up to the year 1917 were the acts of 1911 allowing the cities of New Haven and New London to establish a retirement fund.

In the year 1915 an attempt was made by the teachers of Connecticut to secure retirement legislation providing for the establishment of a state-wide non-contributory retirement system. No special fund was to be provided for that purpose. The state was to appropriate each year the amount necessary for the payment of that year's pensions. The bill was passed by the legislature but vetoed by the governor on the ground of unconstitutionality.

After this defeat the leaders of the pension movement dropped the idea of securing a non-contributory pension and framed a bill following very closely the retirement plan established in Massachusetts. The bill was introduced in the legislature of 1917, was passed without considerable opposition and became a law on July 1, 1917.

Benefits. The only important departure from the Massachusetts plan was with respect to eligibility for retirement. Under the Massachusetts plan, 60 years was fixed as the minimum age for retirement regardless of length of service. In Connecticut, in order to receive a retirement allowance at 60 years of age, the teacher must have completed 15 years of service. On the other hand, if the teacher has completed 35 years of service, he or she may retire regardless of age. This departure from the Massachusetts plan is rather a step backward than an improvement. Its purpose was evidently to avoid the opposition of the teachers who thought that in case of long service, retirement should be allowed at an early age.

The retirement allowance consists of two benefits: an annuity and a pension. The annuity is of such amount as the teacher's contribution would purchase, and the pension paid by the state is of a similar amount as in Massachusetts; an additional pension is paid by the state to teachers who had

been in the service prior to the establishment of the system and who had served 15 years and become eligible to retirement. This pension is to be sufficient to make the total retirement allowance equal the amount they would have received had they contributed for thirty years instead of only since July 1, 1917.

Disability incurred before the age of 55 entitles the teacher merely to a refund of his or her contributions with compound interest. After reaching the age of 55, the teacher may, in case of the approval of the retirement board, be retired under the same provisions and privileges as outlined above for service pensions.

The ordinary death benefit, where death occurs before retirement, is only a refund of contributions plus compound interest. Death after retirement usually results in the cessation of the pension, but it may not entirely result in this way, for every teacher has the right, upon retirement, to choose a smaller pension with the provision that the balance shall be paid to his dependents or assignees on his death in the form of a lump sum or a further pension.

Contributions with compound interest are refunded to teachers who resign or are dismissed before retirement. Those who have taught for 10 years have the alternate choice of leaving their contributions on deposit and drawing such an annuity as their amounts have purchased.

Contributions. The maintenance of the fund is practically the same as in Massachusetts. The teacher contributes 5 per cent of salary with a maximum of $100 and a minimum of $15 per year. Payments may cease after they have become sufficient to buy an annuity of $500 at age 60 or after they have been made for thirty years. The state pays the remainder, including (1) administrative expense, (2) an amount large enough to pay the pensions for service prior to July 1, 1917, and (3) the state's half of the regular retirement allowance paid to teachers for service after the above date.

Management. The act entrusts the management of the fund to a retirement board consisting of the following five members:

1. The state insurance commissioner.
2. The state bank commissioner.
3. The secretary of the state board of education.

4 and 5. Two members to be appointed by the governor, one to serve two years and the other four years. Thereafter, the teachers' association shall elect these two members for overlapping terms of four years.

While representing a substantial advance over the majority of the existing systems, the Connecticut system, like that of Massachusetts, is not as advanced as the systems of New York City and Pennsylvania. The features which are open to criticism, and which have been pointed out in connection with the Massachusetts system, are that the contributions are not graduated according to age, so that the benefits in the cases other than those of average entrants are, therefore, inadequate, and the contributions of the state are not made on a reserve basis. The lack of adequate disability provision is also a serious defect. As this defect in the original scheme of Massachusetts has been remedied by a subsequent amendment it may be expected that Connecticut will soon take a similar action.

CHAPTER XVI

THE NEW YORK CITY FUND

Both on its historical and on its scientific side, the story of the New York City fund, reorganized in 1917 after twenty years of a career apparently prosperous but actually precarious, is of unusual interest.

History of the Old Fund. Prior to 1901 there were two separate teachers' pension funds in the city of New York: one in the boroughs of Manhattan and the Bronx, comprising the old city of New York, established in 1894;[1] the other in the borough of Brooklyn, established in 1895.[2] The income of the New York fund originally consisted of absence deductions, donations, legacies and gifts; that of the Brooklyn fund of a contribution by the teachers of 1 per cent of their salaries. A new source of income was added to both funds in 1898, consisting of 5 per cent of the excise taxes.

The pension provided by the New York fund was one-half of the final salary, not exceeding $1,000. It would be granted, however, only after 30 years of service in the case of a woman, and 35 years in the case of a man; and only upon the recommendation of the city superintendent that the teacher was mentally or physically disabled for the performance of duty. In addition a two-thirds vote of the board of education was required.

Under the provisions of the Brooklyn fund, pensions of one-half of the final salary, not exceeding $1,200, were to be granted at the discretion of the board of education to women teachers not less than 55 years old and to men teachers not

[1]New York, Acts, 1894, ch. 796.
[2]New York, Acts, 1895, ch. 656.

less than 60 years old, after a teaching experience of 30 years, of which 20 years must have been in Brooklyn schools. No retirement was to be made unless the teacher had paid into the fund 20 per cent of the last annual salary before retirement.

The two funds were merged in 1901[1] and the provision for an income from unrefunded absence deductions, contained in the old New York scheme, was also applied to the Brooklyn teachers, while the requirement of a contribution of 1 per cent of salaries, which had obtained in the Brooklyn system, was dropped. The revenues of the fund were again increased in 1905 by a provision that the contribution of 1 per cent from salaries should apply to all teachers in New York and Brooklyn.

The law consolidating the funds also enlarged their benefits. Under the new law, a disability pension after 30 years of service (20 in New York City) was allowed at one-half of the salary received at the date of retirement, with a minimum of $600 and a maximum of $1,000 for teachers, $1,500 for principals and $2,000 for supervising officials. A pension of like amount was permitted at 65 years of age, after 30 years' service (20 in New York City). The granting of a disability pension required the recommendation of the city superintendent and a two-thirds vote of the board of education. There was no such requirement for the "age 65" pension.

The small disbursements from the fund naturally resulted in a favorable balance during the earlier years and created an impression of prosperity. During this accumulative stage the receipts, disbursements, annual surplus and total balance of the fund were as follows:

Year	Annual Receipts	Annual Disbursements	Annual Surplus (Excess of Receipts Over Disbursements)	Capital
1895	$66,688	$16,425	$50,263	$75,324
1900	469,484	277,015	192,468	817,576
1905	738,106	664,258	73,847	1,298,215
1909	963,840	956,905	6,984	1,626,077

[1] New York, Acts, 1901, ch. 466.

The fund, as thus indicated, increased steadily during the first fourteen years. On December 31, 1909, it had to its credit an accumulated reserve of more than $1,600,000. The next year, however, the fund reached its crisis. The disbursements overtook and exceeded the revenues, causing the first deficiency to appear. Then the fund began rapidly to decline. The annual disbursements were now running above a million dollars. The annual deficiencies became heavier; the fund was increasingly forced to draw upon the reserve accumulated during the first fourteen years. It took just five years to exhaust it completely. The decline of the capital is shown in the following table:

Year	Annual Receipts	Annual Disbursements	Annual Deficiency	Capital
1910	$1,078,806	$1,107,918	$29,111	$1,596,965
1911	1,099,039	1,181,600	82,561	1,514,404
1912	1,168,297	1,305,438	137,141	1,377,263
1913	1,183,598	1,465,607	282,008	1,095,255
1914	1,088,658	1,201,312	112,653	982,601
1915	1,060,679	1,214,298	153,619	828,982

Unsuccessful Attempts at Reorganization. In order to check the rapid decline of the fund, the board of retirement adopted several measures, which, however, failed to postpone for any considerable time the day of collapse. In September, 1913, the refunding from the fund of deductions for absences subsequently excused was discontinued. When this proved ineffective, the board of retirement resolved on February 1, 1915 to cease granting new retirements. Some of the applicants were continued in the service, others were granted leave of absence by the board of education for a year on half pay. A serious controversy, however, arose between the board of education and the comptroller of the city of New York over the validity of this action, and much hardship ensued for those teachers whose salaries were held up. Some of those who were granted leave of absence returned to active service although they were unable to do their work.[1]

Another expedient resorted to in 1913, 1914 and 1915 was

[1]Seventh Report of the Board of Retirement, 1915, p. 18.

that of borrowing the next year's excise taxes. The fund still had a capital amounting to about $828,000, but the law allowed the use only of the interest on the permanent capital of $800,000. Finally, in April, 1916, the legislature passed a new law permitting the fund to draw on the capital until reduced to $500,000. Had not this measure been adopted the fund would have been unable to make its next monthly payments.

An actuarial investigation made in 1915[1] showed that if the existing provisions of the fund were continued, the annual pension expenditure would continue to increase until it amounted to more than 20 per cent of the payroll; and that to be solvent on a strictly reserve basis, the fund would have to provide for a tremendous deficiency of almost fifty-five million dollars.

The Bill of 1916. As early as 1910 there had been heard demands for a reorganization of the fund on a sound basis, and these had been enforced by an official report made in 1912;[1] but it was not until 1915 that reorganization became a live question.

In 1913 the New York Bureau of Municipal Research had conducted for an aldermanic committee an investigation of the police pension fund, the annual deficiencies of which amounted to more than a million dollars. It published an exhaustive report in which it set forth "scientific conclusions reached that may serve as a basis for intelligent consideration of pension plans for employees in other branches of the service."[2] As a result of this report a commission on pensions was appointed by the mayor to investigate all the nine pension

[1]New York (City) Commission on Pensions. Report on the Teachers' Retirement Fund, 1915, p. 10.

[2]Hutcheson, W. A. Report by actuary upon the condition of the New York public school teachers' retirement fund. (In New York City Board of Education, sixth annual report of the secretary of the Board of Retirement, 1913.)

[3]New York Bureau of Municipal Research. Report on the Police Pension Fund of the City of New York, 1913, p. 11.

funds of the city and to prepare a plan for the reorganization of the fund.

The commission had made but little progress on the comprehensive program which it had laid out when it was urged to set aside all other work and devote its attention to the teachers' retirement fund, the bankruptcy of which had now become manifest. The difficulties in the way of formulating an equitable and financially sound permanent system were, as always, many and grave. There was, however, the additional danger that such a plan might not be in accord with the general policy to be decided upon later for the city's employees generally, and might impose upon the city a larger proportion of cost for one group of employees than for the other groups.

In spite of these difficulties and the limited time available, the commission prepared and published its report in January, 1916.[1] In submitting it, the chairman of the commission wrote:

In this report * * * following good practice elsewhere, and guided by past mistakes of New York City in dealing with pension problems, a proposal is made to organize a retirement system which will be free, on the one hand, of uncertainties and, on the other, will provide a means just to employees and taxpayers alike for its financing. It is by no means maintained that the conclusions set forth in the report are final. They are presented with a view to complete discussion and with the expectation that they will be changed in the light of fuller wisdom and possibly more mature thought which this discussion will produce. Whatever may be the judgment on the recommendations, the facts are plainly told so that there is provided a complete basis for considering the two major questions involved in the problem: First, what shall be the conditions of retirement? Second, how shall the cost of meeting these conditions be provided? * * *

It is conceivable, of course, that the cost of the entire pension plan may be levied upon the teachers themselves. But to do so would mean either to cut down the benefits below a

[1]New York (City) Commission on Pensions. Report on the Teachers' Retirement Fund, 1916, p. 1.

point where they would seem adequate to furnish a proper basis of retirement, or to impose an intolerable burden upon the teaching force. Similarly, it is conceivable that the entire cost might be laid upon the city. But if this were done, the burden on taxpayers would be so great that protest would be surely evoked, and either reduction or complete stoppage of benefits would follow. The middle course of equal division of cost is suggested with the adequate safeguard of the interest of the teachers that in case they withdraw from the service prior to retirement their contributions shall be returned to them with compound interest.

The report made the following tentative recommendations:

1. *The present law* should be repealed and a new law passed which will deal more exhaustively with all details of provisions than the present law, and will eliminate as much as possible the exercise of administrative discretion.

2. *The administration and interpretation* of the law should be entrusted to a board independent of the Board of Education and composed of members administratively and technically qualified for the efficient performance of their duties. In such board the Department of Education should be represented.

3. *The liability to present pensioners* should be reduced.

(a) By a revision of the entire list.
(b) By the revocation of pensions to disability pensioners no longer disabled.
(c) By the return to duty of existing disability pensioners who are cured of their disabilities and of service pensioners who are not superannuated or otherwise disabled.
(d) By a readjustment of pension benefits in accordance with the scale suggested for the retirement of future beneficiaries.

4. *The fund's liability for future pensions to teachers now in the service* should be reduced. A change of existing provisions by the introduction of a minimum age limit for retirement and other details discussed in this report will materially reduce the fund's present liability.

5. *The future contributions of teachers now in the service* should be increased to cover:

(a) One-half of the cost of benefits accruing for services subsequent to the reorganization of the scheme, and

(b) One-half of the cost of benefits accruing for services prior to the reorganization of the scheme, except when the total annual contribution of individual teachers would exceed 8 per cent of salary.

The scale of contributions will vary according to present age and number of years of past service, and should, as a matter of expediency, be limited to a maximum of 8 per cent of salaries in case of individual teachers. The contributions of teachers should be made returnable with compound interest at 4 per cent upon separation from service prior to retirement.

6. *Teachers entering the service after reorganization* should be made eligible to retirement under the same pension provisions as are proposed for teachers now in the service. Their contributions should cover one-half of the cost of their benefits. Since there are no arrears to be made good, the contributions of new entrants into the system will be much smaller than those of teachers who are nearing the period of retirement.

7. *The city should contribute annually a percentage of salaries of teachers* sufficient to cover one-half of the cost of benefits accruing because of *services subsequent to the reorganization of the scheme.* Such contributions should not be available to employees leaving the service prior to retirement.

8. *The city should contribute a uniform amount annually for the next* 60 *years* to liquidate:

(a) The fund's liability remaining for pensions on the roll at the time of reorganization of the scheme after the list of pensioners has been revised as recommended.

(b) The fund's liability remaining for future pensions on account of services of present teachers prior to reorganization after change in benefit provisions has been made and the future contributions of teachers have been increased to cover back services.

9. *The assets and liabilities should be appraised periodically,* and necessary adjustments made in all three contributions.

At about the same time that the commission published its

report, a committee appointed by the Federation of Teachers' Associations published a pension plan which differed fundamentally from the city plan. The rates of contributions and benefits were fixed more or less arbitrarily without actuarial calculations, the committee being of the opinion that no actuarial advice was necessary. The plan was unsound but contained features which made it popular with the teachers—low contributions, retirement after 30 years of service, and a pension of one-sixtieth of salary for each year of service.

The criticism of the teachers was particularly directed against the recommendation of the report that regardless of length of service no teacher should be retired on a pension before 65 years of age, unless disabled. It was urged that a teacher who entered the service at 20 and was compelled to serve 45 years before becoming entitled to a pension would be worn out long before retirement and that such a late pension would, therefore, be of little value to the teacher or to the schools.

Early in 1916 conferences were held between representatives of the commission and of the teachers. As a result of these conferences, the city yielded as to the age condition and the teachers as to length of service. They agreed that retirement should take place either after 65 years of age, regardless of length of service, or after 35 years of service, regardless of age. With respect to the amount of pension, the scale of one-seventieth of salary was agreed upon in place of the one-eightieth provided in the city plan, and one-sixtieth in the teachers' plan. An agreement was also reached on the question of dividing the cost equally, except that the city was to assume the entire burden with respect to pensioners already retired, and the major part in case of the older present teachers. A compromise bill was prepared which provided that in the event of resignation, dismissal or death, the member's contributions together with interest were to be refunded to him or to his dependents, and that the actuarial equivalent

of the pension could be taken in the form of various optional benefits. The contributions of the teachers were to be funded on an actuarial reserve basis and were guaranteed to earn interest compounded at 4 per cent. Their amount was actuarially calculated, expressed as a percentage of salary, and so graded according to age and sex that every teacher would contribute about one-half of the cost of his retirement benefit with such limitation, however, that his contribution could in no case exceed 8 per cent of salary. An important option was given the teachers by which they could reduce their contribution to 5 per cent, thereby proportionately reducing their annuity. The city was to pay—

(1) the entire pension roll of all the teachers already retired (about 1,400 persons)

(2) one-half of the cost of providing for retirement of the present teaching force plus the additional share in excess of the teachers' 8 per cent contributions. The payment was to be made on a cash disbursement basis, the city appropriating each year for each pension falling due an amount which together with the amount purchased by the teachers' own contributions would equal one-seventieth of his average salary for each year of service.

(3) yearly contributions sufficient to accumulate a reserve fund from which to pay half the pension of new entrants. In the latter case the city was to match their contributions dollar per dollar.

(4) the cost of administering the fund.

The history of the spirited contest which was waged around the reorganization bill will repay the close study of one interested in the human and psychological factors which may so complicate the attempt to reorganize a pension system on a scientific basis. Behind the proposed bill stood the city administration, represented by the pension commission, and, as already seen, the Federation of Teachers' Associations. Opposed to it were large groups of teachers, actuated by varying interests in and objections to the plan, who had organized

a Teachers' Pension Association to defeat the bill. The conflict between these two organizations, each claiming to represent the prevailing sentiment of the teachers, injected an element of bitterness into the contest and made easy the introduction of irrelevant and confusing issues.

That the plan had provoked opposition from large numbers of teachers was not indeed surprising. Many teachers were strongly opposed to having their contributions increased from 1 per cent under the old unsound system to from 4 to 8 per cent under the proposed system. The pension association argued that even "the lowest of these rates is extremely excessive;" and it was indeed frequently alleged, quite incorrectly, that "nowhere in the world are such high contributions required."[1]

Out of this opposition to an increase in the contributions there were revived the familiar and time-honored arguments against compulsory participation in a pension fund; and much was made, too, of the natural opposition of the younger teachers to those features of the plan which seemed to favor the older teachers—the assumption by the city of all contributions, in excess of 8 per cent of salary, required for making up the deficiency of the existing fund, and the grading of pensions according to salary. It was urged that teachers, principals and superintendents should all be provided with a "flat pension" of $750 irrespective of their salaries; that $750 was

[1] The rates of contributions in many of the teachers' pension systems abroad are even higher than those proposed, as indicated in the following table, which was published by the Federation of Teachers' Associations at the time:

Country	Percentage of Salary Contributed by Teachers	Contributed by Government
Russia	6	6 per cent of salary
France	5	Balance of cost
Austria	3.8	Balance of cost
Italy	5	6 per cent of salary
Spain	4	Balance of cost
Belgium	3	5.5 per cent of salary
Scotland	4	6 per cent of salary
Netherlands	7	Balance of cost
Greece	9	Balance of cost
New Zealand	5 to 10	Balance of cost

sufficient for any teacher to live upon, and that the men who were receiving large salaries ought to have saved enough to eke out whatever they received from the city. Indeed that the very basis of the whole plan was a refunding to the teacher of his or her own contributions was itself made an object of attack. The right of all citizens, including teachers, to invest their money as they saw fit was repeatedly emphasized. The insurance features of the plan were likewise denounced as constituting an unjustifiable venture of the city into the insurance business.

Undoubtedly, also, one of the factors of the opposition was the general discontent among the teachers because of other grievances against the city administration. Side issues were brought into the discussion which had nothing to do with pensions and which tended further to confuse the minds of the teachers. Thus, in one of the leaflets prepared by the Teachers' Pension Association, it was pointed out that "the city on the plea of economy is denying promotion to nearly 1,000 teachers and is keeping several hundred persons from appointment to the system. Why do they claim they are willing to pay so much for pensions?"

While the bill was before the legislative committees, a referendum vote of the teachers was taken which showed that 11,000 were opposed to the measure with 8,000 in its favor. The minority, however, urged that in a matter of such a technical character the controlling weight should be given to the opinion of the actuaries and other experts.

Shortly before the bill came to a vote the president of the board of education, Mr. William G. Willcox, issued a statement which so admirably summarizes the situation as to warrant reproduction here:[1]

Teachers who are opposing the proposed pension legislation are assuming a grave responsibility. Although the measure has been approved and endorsed by the pension commission, by

[1]Evening Telegram, New York, April 4, 1916.

the city administration, by the unanimous vote of the board of education, and by a large majority of the teaching and supervising staff, it is quite possible that an active minority of the teachers may defeat it. If so, they will be responsible for much hardship and distress among hundreds of teachers who have been or should be retired. If the opposition were the result of careful study of the measure, it would be less open to criticism, but it is apparently based upon misunderstanding and ignorance, for as the provisions of the bill are explained the opponents rapidly become advocates.

The measure does not deprive any teacher of a single dollar of salary. It does provide for the compulsory saving of about five per cent of the salary, but under no circumstances can these savings be lost to the teacher. If a teacher dies in the service or leaves the service for any cause without retirement, the accumulated deductions with four per cent are refunded. If a teacher is retired the accumulated savings are doubled by the city to provide the stipulated annuity. As the eight per cent deduction provided for the teachers nearing the retiring age may be reduced to five per cent with a corresponding reduction in the annuity, no teacher is really compelled to save more than five per cent. Even upon actual retirement any teacher may elect to decline the annuity and withdraw accumulated savings instead.

Is it, then, unfair or unreasonable that a teacher should be obliged to put by five per cent of the annual salary as a provision for old age? Certainly everyone dependent upon a salary should save as much as five per cent each year, and even with this deduction the remaining salary for women teachers will be considerably more than they received before the equal pay law was passed. If teachers were asked to contribute five per cent to pay annuities of other teachers, they might reasonably object, but is any teacher justified in opposing this liberal and humane provision for sick and disabled teachers and forcing the continuance of a situation of misery to these poor teachers and of detriment to the schools, merely to avoid saving five per cent of his salary, which will be as safe as if deposited in a savings bank, and which will be refunded with four per cent interest unless he himself elects to use it for his own annuity?

No plan could possibly be devised on which all would agree,

or which would not cause some inconvenience or perhaps hardship in individual cases, but in a situation in which the teachers must apparently get together or get nothing the minority should seriously consider their position before assuming responsibility for the defeat of this most liberal and beneficent measure.

The bill was favorably reported from committee, but, after debates attended by much excitement and considerable disorder, failed of passage by four votes.

The Enactment of the Reorganization Law of 1917. After the defeat of the bill of 1916 the pension commission and the teachers' federation took steps together to prepare a new bill. After a considerable study a great number of new features were added of which the most important were: (1) a clear distinction between the "annuity" purchased by the teachers' contributions and the "pension" supplied by the city; (2) a provision by which a teacher might reduce his contributions (thereby reducing his "annuity") without reducing the "pension" supplied by the city; (3) abolition of direct relationship between annuity and salary, thereby preventing those who advance rapidly from obtaining greater benefits at the expense of those who advance slowly.

To avert repetition of the accusation that the teachers had no opportunity to consider the proposed pension measure, Mr. Willcox ordered the teachers to appoint three delegates from the schools who were to constitute a central pension committee. This committee, consisting of 150 teachers, was to "express to the city pension commission the views and criticisms of the teachers, and to convey to the teachers accurate information regarding the provisions of the proposed pension plan."

The teachers' "Committee of 150" was divided between a minority which favored the measure, and a majority which urged three principal objections to it. The majority urged in the first place that the city should not be permitted to

require from the teachers already in the service a contribution larger than 3 per cent of salary, but that it should guarantee each teacher a half salary benefit. To this the city objected on the ground that it would impose upon it an additional liability of five million dollars, that it would lead to a similar claim on the part of new entrants, and would be against the fundamental principle of coöperative division of cost.

In the second place the majority opposed the city's granting pensions above $2,000. This objection was rooted in the antagonistic attitude which the lower paid classes usually develop towards the higher paid officials. To this the city's representatives replied that a pension of $2,000 would not be sufficient for the superannuated superintendents, and that unless they were to receive a pension proportional to their salary, they would have to remain in the service and by so doing would block promotions and thus prove more harmful to the efficiency of service than the continuance of an ordinary grade teacher, and that the number of higher pensions would be so insignificant as to make almost no difference in the rest of the system.

Thirdly, objection was made that the partial reserve with which the system was to begin was inadequate and that the growth of necessary budget appropriations would, therefore, become so great as to endanger the permanency of the fund. In reply to this the city asserted that since the passage of the proposed law was requested by the city (thus differing from the old law which was enacted at the request of the teachers), and since it would voluntarily assume the financial obligations involved in it, it was hardly conceivable that any future legislature would consent to repeal the law. It was also pointed out that the heavy cost of the first few years would be due entirely to the initial payments for liabilities incurred by past services and after a few years would decline rapidly and become normal.

After a number of conferences, the city refused to make

concession on any of these points or to further delay the matter, and the city's pension bill was accordingly introduced at Albany. As the work for which the committee of 150 was created was thus completed, the committee disbanded.[1]

As soon as the committee disbanded, the majority of the committee which was opposed to the city's pension measure effected a permanent organization known as the Teachers' Interests Organization, the purpose of which for the time being was to defeat the city's pension bill and "to secure pension legislation satisfactory to a majority of the teachers." Various committees were appointed and a feverish activity started, funds were collected, mass meetings arranged, and delegations to attend the hearings at Albany appointed.

The teachers were now as hopelessly divided as the year before. The same spirit and substantially the same arguments prevailed. The opponents of the bill maintained that no pension bill should be passed which did not receive the approval of the majority of the teachers. Knowing that the majority consisted of younger teachers who were not interested in pension measures, except that they were opposed to an increase of their contributions, they again demanded that an official referendum should be taken among the teachers, the results of which should be binding upon the legislature. But the legislative committee stated that the results of a teacher's referendum cannot bind the legislature and that they "will

[1]The disbandment of the committee was precipitated by a letter from the president of the board of education in which he stated in part: "I must confess that I am greatly disappointed in the results of the committee as a whole. Not only has it shown little capacity as a whole for constructive work or constructive criticism, but it has failed to assume and maintain the impartial and fair-minded attitude which is the first requisite for the usefulness and success of such a committee. I have devoted much time and effort to a sincere attempt to give the teaching staff fair representation in the consideration of the pension problem and to give the committee every opportunity to discharge its trust with credit to itself and benefit to the teaching staff, but the attitude of the committee has not been such as to command confidence in its desire or purpose to promote a fair and intelligent judgment on the merits of the proposed plan and I have reluctantly been forced to the conclusion, therefore, that the experiment must be considered a failure."

consider the interests of all citizens, and not only the teachers in that matter." In view of this opinion the board of education refused to order a new referendum.

In addition to the arguments already discussed a number of others were presented. It was argued that the bill substantially reduced salaries, as an increase of the teachers' contributions was tantamount to a reduction of salary; that by agreeing to meet the city on the basis of a maximum contribution of 3 per cent the teachers were really doing more than they should have done, and that a higher increase of their contribution was outrageous, especially in view of the fact that the cost of living had increased tremendously; that the bill made the women contribute at a higher rate, "which is inequitable, for it cannot be true that women live longer than the men;"[1] and that "the policy of arbitrarily subtracting from the pay of an employee money for this purpose is unconstitutional."[2]

At the hearings held by the legislative committees numerous associations of taxpayers appeared in opposition to the measure. They maintained that it would bankrupt the real estate interests, that there was no reason for pensioning teachers, and that there was no obligation upon the city to carry even the present pension roll. They characterized the measure as socialistic.

After a heated contest the bill passed both houses of the

[1]In a letter to the editor of the Globe (April 16, 1914) a school teacher wrote in part: "The women are nervous wrecks now (ask any doctor) owing to all the new and extra work for years that has been heaped upon their shoulders. Who says they'll live longer than better paid men teachers, under such crushing and overcrowded conditions? Prove it."

[2]The president of the Professional Elementary Teachers' Association wrote in the Globe of April 5: "The greatest and main objection is that it is applying to an exaggerated degree a principle the constitutionality of which is beginning to be seriously questioned. That principle is the right of any legislature, civic authority or corporation deliberately to take from the salary or wage of any employee any portion of that salary or wage for annuity purposes without that employee's consent. I have the opinion of a United States senator who states that this policy of arbitrarily subtracting from the pay of an employee money for this purpose is "unconstitutional." (Globe, April 5.)

legislature and came before the mayor of the city of New York for his acceptance on behalf of the city. He accepted it and it then went before the governor. A last desperate attempt was made by the opponents of the bill to induce the governor to veto it. In this campaign the political opposition to the mayor, of which the opponents of the bill had unfortunately permitted themselves to make use, showed itself more clearly than in any of the preceding stages of the contest.[1] On May 1, 1917, the governor signed the measure and it became immediately effective.

The opposition movement, however, was not silenced by this defeat. Its leaders urged the teachers to "allow no one on the Retiring Board who did not oppose the bill."[2] The schools were to elect delegates who, in turn, would elect the three members of the retirement board. The opponents succeeded in the election of twenty-four of their delegates as against twenty-two of the supporters of the act. This slight majority was sufficient to give the opponents all three seats in the retirement board and to leave the advocates of the measure without any representation in the management of the system.

Provisions of the New System. The new system of New York City is thus the result of protracted and searching dis-

[1]This is well illustrated by the instructions which 200 district delegates of the Teachers' Interests Organization took to their schools after a meeting in the High School of Commerce (April 19th):

"1. Do all in your power to prevent the governor's signature from being placed upon the bill by means of letters, not only from the teachers but from citizens and taxpayers. In these letters state three or four specific reasons for opposing the bill. Don't write long letters.

"2. Members and their friends should call on every politician, every person in power that they think can have any weight with the governor.

"3. Kindly get a petition signed by every teacher, if possible, in your school, by every parent or citizen in the neighborhood or in your acquaintance and send it to the governor. State at the head of this petition why you are opposed to the bill, giving five or six definite reasons. Chief among these are that the proposed deductions are a reduction in salary; that the teachers are given but three of the seven members on the board of retirement, and that the bill is an administration measure of the city authorities."

[2]Brooklyn Daily Eagle, May 3, 1917.

cussion and of the greatest possible accommodation, through necessity, of the conflicting interests involved. But it is the fruit also of perhaps the most thorough and painstaking study that has yet been applied to the teachers' retirement problem in this country. A detailed examination of its provisions, therefore, seems desirable.

Benefits Provided. Membership in the system is compulsory for all teachers (present teachers and new entrants) having a permanent license. Teachers without a permanent license may also join the system.

Retirement is made dependent either upon age (voluntary at 65, compulsory at 70) or length of service (35 years) or disability. The retirement allowance consists of two parts—an "annuity" purchased by the teachers' contributions, and a "pension" supplied by the city—and amounts at the full rate of contributions to about one-half of the average salary for the last ten years. The amount of the allowance varies according to the rate of advancement as determined by different methods in the cases of new entrants and of the present teachers.

In case of new entrants, contributions are so graded according to the age and the sex of the contributor as to purchase an annuity of about one-fourth of his average salary for the last ten years, if he advances at the average rate; slightly less, in case of rapid advancement; or slightly more, if he advances slowly. The "pension" amounts strictly to one-fourth of the average salary.

In the case of the present teachers, the method of computing the annuity is different in that it amounts to less than one-fourth of salary, because they have not contributed at the new rate during their previous service and cannot, therefore, purchase the same annuity as the new entrants. The difference is supplied by the city in the form of an additional pension of one thirty-fifth of one quarter of the average salary for each year of previous service not exceeding 35 years. Thus, in

their case, too, the total benefit consisting of the annuity, one-fourth salary pension and additional one-thirty-fifth pension, amounts to about one-half salary in case of the average advancement and the full rate of contributions.

In the event of disability after 10 years of service a retirement benefit is provided which consists of: (1) the "annuity" purchased by the teachers' contributions; (2) a "pension" of one-fifth of the average salary and (3) an additional "pension" of one-thirty-fifth of one quarter of the average salary for each year of previous service.

Upon resignation, dismissal or death, all contributions, together with compound interest at 4 per cent, are refunded to the teacher or to his assigns. If the teacher dies in active service after becoming eligible to retirement, a death benefit of one-half of the preceding year's salary is paid by the city in a lump sum to his estate.

Among the many excellent features of the system, the provisions for optional benefits deserve attention, for they make it flexible and adaptable to the varying needs of the individual teacher. After becoming eligible for retirement on half pay, a teacher still continuing in the service may withdraw the annual interest on his accumulations or such part of the principal as will not be required to provide him an allowance of half-pay on account of a more advanced age and consequent reduction in the cost of his annuity. It is further provided that any contributor may, upon retirement, elect to receive the actuarial equivalent of his pension and annuity in any one of the follownig forms:

1. His regular annuity and pension, or
2. A reduced benefit with a provision that in case he dies before he has received the total value of his annuity and pension, the balance shall be paid to his heirs, or assigns, or
3. Reduced benefits covering two lives with a provision that upon the death of the teacher the same benefits or one-half of such benefits shall be continued throughout the

life of such person as the teacher shall have designated, or

4. Such other form of actuarial equivalent as may be certified by the actuary and approved by the retirement board.

Financing Benefits for New Entrants. In order that the system shall operate strictly on a reserve basis, both the city and the teachers set aside each year certain percentages of salary to special reserve funds, from which the annuities and the pensions of the new entrants are eventually to be paid. Each teacher has practically an individual savings account in the "annuity savings fund" to which his contributions are credited. The city on the other hand contributes to a separate reserve fund (called "contingent reserve fund") on account of those contributors who may retire on superannuation or disability. It discounts the number of those among the new entrants who will drop out because of resignation, dismissal or death before retirement, and it does not contribute on their account.

The rate of contributions of the teachers is not definitely fixed by the law. Each new entrant is to contribute (the provision being mandatory) such percentage of his salary as may be computed by the actuary to be sufficient to purchase an annuity of one-fourth average salary. The rates are, therefore, different at each entrance age. The following rates taken for certain ages may serve as an illustration:

Age at Entrance	Percentage of Salary Contributed by Men For Retirement at the Age of 65	Percentage of Salary Contributed by Women For Retirement at the Age of 65
25	2.85	3.23
30	3.32	3.79
35	4.05	4.66

Contributions required for retirement at an earlier age than 65 are considerably higher. Thus a man teacher entering at 25, who would elect to contribute towards his half pay pension to be payable on the completion of 35 years of service, i. e. at the age of 60, will have to contribute at the rate of 4.24 per cent instead of 2.85 per cent required for the age of 65.

Financing Benefits of Present Teachers. The contributions of the teachers who were in service at the establishment of the system are funded in a similar manner and in the same reserve fund ("savings and annuity fund") as the contributions of new entrants. An entirely different method is, however, provided for the city's contribution. The law provides that the city shall:

1. Appropriate each year on a cash disbursement basis the amount needed for the payment of pensions of the retiring present teachers, and
2. In addition set aside each year one million dollars as a partial reserve against future pension payments to present teachers until the fund as created is equivalent to all accumulations of present teachers.

This partial reserve considerably reduces the future payments of the city and thus prevents an excessive growth of the burdens of the future generation of taxpayers and safeguards the system against sudden attack.

Funds. Several funds are set up each of which performs a distinct function. The "annuity savings fund," in which the contributions of the members remain until retirement, performs the functions of a savings fund, the contributions being returned with 4 per cent compound interest to those who resign, die or are dismissed. On the date of retirement the contributions are transferred to the "annuity reserve fund" in which they acquire insurance features, being used to purchase the annuities of the new entrants.

The contributions of the city are paid into the so-called "contingent reserve fund." From this fund are paid the death benefits for "new entrants" provided by the system. On the retirement of a teacher, the purchase price of a pension, if he or she be a "new entrant," or an amount equal to the accumulated contributions paid by him or her, if he or she be a "present teacher," is transferred to the so-called "Pension Reserve Fund No. 1;" and from this fund the annual pensions are paid.

A so-called "Pension Reserve Fund No. 2" is also set up. Into this fund were paid, at the establishment of the system, all moneys remaining in the old retirement fund. To this fund the city adds, as it becomes necessary, the moneys needed to pay the pensions to those already on the pension roll at the time of the establishment of the system, and also such part of the pensions of "present teachers" as are not paid out of "Pension Reserve Fund No. 1." The payment of death-benefits to "present teachers," and the refund to such teachers, in case of dismissal, of the contributions made by them under the old system, are also paid out of this fund. Except for the comparatively minor amount received from the old fund, this "Pension Reserve Fund No. 2" is not in reality a reserve fund so much as an appropriation account.

Under the head of "Expense Fund" account is kept of the moneys annually appropriated by the city to defray the expenses of the administration of the fund.

Management. The management of the system is in a board of seven members, of whom three are elected by the teachers, three (the comptroller and two members appointed by the mayor) represent the city, and the seventh is the president of the board of education. All these members serve without compensation. They may employ a secretary, an actuary and such medical, clerical and other staff as is necessary, and fix their compensation.

Actuarial Valuations. The law provides that the first actuarial investigation of the mortality and service experience and the first valuation of the fund shall be made in 1919, two years after the establishment of the system; the second, three years after the first, and that investigation be made every five years thereafter. On the basis of these investigations the retirement board shall (1) adopt such mortality and other tables as shall be necessary; (2) certify the rates of contributions necessary to pay the annuities provided in the bill, and (3) certify the rates of the city's contributions with respect to new entrants.

CHAPTER XVII

THE PENNSYLVANIA SYSTEM

Soon after the years 1894-1896, when retirement laws for teachers were passed by the legislatures of New York, New Jersey, Illinois and Ohio, a movement developed among the teachers of Pennsylvania in favor of obtaining retirement legislation. The teachers of Philadelphia took the leading part in this movement. The result was that in the year 1905 a provision was added to the school law allowing any city of the first class (in reality only the city of Philadelphia) to establish a retirement fund. The wording of this provision was very brief and indefinite. The fund was to consist "of all funds available for like purposes at the time of enactment of this law, together with such additions thereto as the Board may from time to time prescribe, and such money as may be donated or bequeathed for such purposes."

No rules were set as to the conditions under which retirement could take place and the amount of annuity which should be granted. It was simply provided that "any teacher, principal or supervising official retired by the Board of Public Education shall receive from the Board such an annuity as the Board of Education shall prescribe."

Under this law the Philadelphia fund, the first teachers' retirement fund in Pennsylvania, was established. Its rules and by-laws were formulated and approved by the local board of education.

As the teachers in other cities of the state were anxious to have a similar retirement fund, the law was amended in 1907 extending the permission to establish retirement funds

to the cities of second and third classes. The wording of the law remained substantially the same.

Under this amendment Harrisburg established a retirement fund in 1908, and Wilkes-Barre in 1910.

In 1911 a further amendment was enacted extending the application of the law to "any school district" and specifically providing that any board of education might contribute to the fund and also "provide in the contract with its teachers that they shall contribute a reasonable sum from their salaries each year" and that "where the teachers contribute to any retirement fund they shall be represented in making the regulations governing it, and its control and management."

During the five years following the passage of this act the following seven cities established retirement funds:

Scranton	in	1911
Pittsburgh	"	1912
Altoona	"	1913
Chester	"	1913
Reading	"	1913
Lancaster	"	1914
Erie	"	1916

To many leaders of the pension movement the results of the permissive legislation seemed disappointing. They realized that the hundreds of small localities might never take any action in the matter of making retirement provisions for their teachers, and they urged that the state step in, take the retirement question out of the jurisdiction of the localities and establish one state-wide and state-administered system covering all the teachers in the state.

There was, however, wide disagreement as to the extent to which the state should go into the matter. The State Teachers' League took the extreme position that the state should bear the entire cost of the system and relieve the teachers of any obligation to save towards their future; and that the entire control of the system be vested in the state superintendent of schools. The league accordingly framed a bill in 1907 providing that any teacher who had taught for

30 years, 20 years of which had been in Pennsylvania schools, should receive from the state an annuity of one-half of his average salary for the last five years, with a minimum of $200 and a maximum of $600. No special fund was to be set aside for this purpose. Each year an appropriation was to be made of the sum necessary to meet the annuity requirements of that year. The bill met with strong opposition and failed to pass.

The State Educational Association went to the other extreme and supported the principle that the teachers should bear the entire cost of the system. It prepared a bill providing for the establishment of a retirement fund supported by teachers' contributions and administered by a board consisting of five members appointed by the state superintendent of schools, of whom one was to be a classroom teacher, one a county or district superintendent and two not teachers. The contributions were to diminish with longer service from 4 per cent of salary at the outset to 1 per cent during the final period. Any teacher who reached the age of 60 and completed 30 years of service could retire on a pension of one-sixth of the average monthly salary of the teacher, multiplied by the number of years he had served. Disability pensions were provided and the contributions were to be returned in cases of resignation.

The bill was introduced in the legislature in 1915 and was widely discussed. Objection was made that it imposed upon the teacher a disproportionately heavy charge during the beginning of her career when she was the least able and willing to make provisions for the future and reduced her burdens during later periods when her salary and foresight have usually increased. The rate of contributions was not based on any actuarial calculations and was inadequate. The tenth annual report of the Carnegie Foundation of Teaching said about the bill:

The bill encountered much opposition; the teachers in the small systems objected to the burden of the contribution,

which was not offset by contributions from the state; the teachers in the larger systems were opposed to a scheme that would deprive them of the benefits of existing arrangements in which the contributions were not so high, the employing authority supported the fund, and some assets had already been accumulated. The chief weakness of the measure was the inadequate financing, since no teacher would have been required to contribute more than $592 on a basis of eight contributions per year,—a deficiency which no amount of complicated regulations could set right. The measure might perhaps have been assured of earlier success if its advocates had come forward with a definite and straightforward request for state aid instead of urging a scheme which could have been saved from early insolvency only by a subsequent appeal to the state. Too much is at the stake when upwards of 40,000 teachers are involved, to indulge in experiments, even if they are intended merely as entering wedges for proving the need of state support.

The bill failed to pass. There then developed a tendency to find some middle ground between the two extreme ideas which had been defeated. The two associations which had hitherto disagreed so sharply came to agreement. A joint committee was appointed which entrusted to the actuary of the New York City Commission on Pensions the work of preparing an actuarial system.

The fact that the new system was to be introduced where there was no system before, permitted its framers to include in it many progressive features, the inclusion of which in the New York City system had been successfully opposed by those who claimed to have "vested rights" in the unsound provisions which had been previously enacted.

The work was completed in the course of a few months and the bill was presented to the legislature early in the session of 1917. An able propaganda explaining the fundamental principles of the bill was conducted by the committee of the two associations and an intelligent public discussion of the bill was obtained with the result that the support of the majority of the teachers and legislators was secured. The

school employees, to whom the bill originally did not apply, addressed a petition that they be included in it. Their request was granted and the name of the proposed fund was changed from Teachers Retirement Association, to School Employees Retirement Association. The bill passed both houses, meeting very little opposition, was signed by the governor and became a law on July 18, 1917.[1]

Benefits. Membership in the new system is compulsory for all persons entering the service after the date of enactment. Teachers already in the service are given until July 1, 1919 to elect whether or not to enter.

Retirement takes place on the basis of age, not length of service. Any person who has reached 62 years of age may retire regardless of his or her length of service. This feature of the system prevents the early retirements which are possible under the provision of the New York City system, which allows retirement after 35 years of service, regardless of age, and which, as has been shown, was there adopted for the sole purpose of effecting a compromise with the teachers who otherwise would have blocked the passage of the bill.

Retirement is made compulsory at 70. The superannuation benefit is fixed at the rate of one-eightieth of the average salary for the last ten years for each year of service (with a maximum of 50 per cent of the final salary), whereas in the New York City system it is fixed at one-seventieth. The lower scale of benefits reduces the cost to the teachers as well as to the state.

The benefit consists of two parts: one for "subsequent service" rendered after the establishment of the system, and the other for "prior service." The first divides itself into two equal parts, one purchased by the employee's contributions, and called "employee's annuity" and the other provided by the state's contribution and called "state annuity." Each

[1]Pennsylvania, Acts, 1917. No. 343. July 18, 1917.

is fixed at one one-hundred-sixtieth of the average salary multiplied by the number of years of subsequent service. The benefit for "prior service" is provided entirely at the expense of the state and is called "additional state annuity." It is fixed at the rate of one-eightieth of the average salary for the last ten years multiplied by the number of years of prior service.

Disability Benefit. Any person who, after 10 or more years of service and before reaching the age of 62, has become disabled, receives a disability allowance of one-ninetieth of his average salary for the last ten years multiplied by the number of years of service. The benefit must be neither less than 30 per cent of salary nor more than eight-ninths of the benefit to which the person would have been entitled had he or she continued in the service until the age of 62. Once each year the retirement board may require the disability annuitant to submit to a medical reexamination. Should the annuitant while under the age of 62 refuse to be reexamined or should it be found that he is no longer disabled, the board may discontinue his state annuity. In case the disability annuitant is engaged in another gainful occupation the board may refuse his state annuity. Should a disability annuitant recover and be restored to school service, his retirement allowance ceases and his rate of contribution is the same as before disability.

Death Benefit. In the case of death before retirement the dependents of the deceased received the employee's contributions with compound interest at 4 per cent. With regard to death after retirement the provisions are similar to those in New York. The employee may at the time of his retirement choose a smaller allowance with the agreement that the balance shall be paid to his dependent or assignee in the form of either a lump sum or further annuity.

Any employee who resigns or is dismissed before retirement receives back all his contributions together with 4 per cent compound interest.

Teachers' Contributions. Each teacher contributes a certain percentage of his salary according to his age at the time of becoming a member of the system. The rate of contribution is so fixed as to provide at the age of 62 an annuity of one one-hundred-sixtieth of the average salary for each year of subsequent service. In view of the fact that all contributions are calculated to the same retirement age instead of as in New York to different ages according to length of service. the same contribution obtains for all teachers of the same age irrespective of whether they have previous service to their credit or have just entered the service. The scale of contributions, which is shown on the following page, contains, therefore, only about eighty-six different rates (two for each age, one being for men and the other for women), whereas the New York City scale of contributions contains about 2,000 different rates. The difficulties which the members of the New York City systems frequently experience in having to select between a number of different rates, the arrangement of which they do not understand, is hereby avoided, and the task of keeping records is simplified.

Contributions are never required on any portion of a salary in excess of $2,000. The older entrants whose regular rate of contribution exceeds 5 per cent may lower it to 5 per cent, thereby either reducing their annuity or postponing the date of their retirement. Such a lowering of their rate does not affect their state annuity. In this respect the Pennsylvania system is also in advance of the New York City system which allows the members to reduce their contributions as low as 3 per cent and thereby greatly reduce their future benefits.

State Contribution. The state contributes on a full reserve basis on account of all past and future services of all its members, whereas in New York the city contributes on a full reserve basis only on account of new entrants, the partial reserve basis being adopted for present teachers. It contributes semi-annually 2.8 per cent of the annual salaries, and

each semi-annual payment must be at least 3 per cent higher than the second preceding semi-annual payment. This contribution will create a sufficient reserve in less than forty years,

SCALE OF EMPLOYEES' CONTRIBUTIONS IN THE PENNSYLVANIA FUND

Age	Percentage of Salary Required in Case of		Age	Percentage of Salary Required in Case of	
	Men	Women		Men	Women
18	3.33	3.69	40	3.74	4.45
19	3.33	3.71	41	3.79	4.52
20	3.33	3.74	42	3.84	4.59
21	3.33	3.75	43	3.89	4.67
22	3.34	3.78	44	3.95	4.75
23	3.34	3.79	45	4.01	4.83
24	3.34	3.81	46	4.07	4.92
25	3.35	3.83	47	4.14	5.01
26	3.36	3.85	48	4.20	5.10
27	3.37	3.88	49	4.27	5.20
28	3.38	3.90	50	4.34	5.29
29	3.40	3.93	51	4.41	5.40
30	3.42	3.96	52	4.49	5.50
31	3.44	4.00	53	4.57	5.61
32	3.46	4.03	54	4.64	5.72
33	3.49	4.07	55	4.73	5.83
34	3.51	4.11	56	4.81	5.94
35	3.55	4.16	57	4.90	6.07
36	3.58	4.21	58	4.98	6.18
37	3.62	4.27	59	5.08	6.31
38	3.65	4.32	60	5.16	6.42
39	3.70	4.38	61	5.30	6.59

and can then be discontinued. It will liquidate the accrued liabilities in a much shorter space of time than will the partial reserve contribution of New York City.

Reimbursement. The state is reimbursed by the localities to the extent of one-half of the contribution which it makes on account of the teachers that they employ. The purpose of this arrangement is to interest the local employing body in the welfare of their employees and to equitably distribute the cost. The reimbursement is deducted from the funds which it apportions for school purposes.

Valuation. It is estimated that the total liabilities on

account of present employees amount to about $61,000,000, of which $23,000,000 will be contributed by the teachers and $38,000,000 by the state and by the localities. The annual appropriation on account of present employees now amounts to about $1,500,000. The appropriation on account of new entrants, which is fixed at 2.75 per cent of salaries, during the first year amounts to about $25,000 and will increase each year thereafter at least by that amount. Actuarial valuations are to be made in 1919, 1921, 1924 and every fifth year thereafter.

Management. The system is managed by a retirement board of seven members. The superintendent of public instruction, the state treasurer and one member appointed by the governor represent the state. Three members are elected by the teachers, and the seventh member is elected by the six. The system is subject to the supervision of the state department of insurance.

Relation to Local Funds. The law allows any existing local retirement fund to merge with the state fund if two-thirds of the members of the local fund apply for membership in the state fund "by a petition duly signed, verified and approved by their employer." In that case the local system is discontinued and dissolved as follows: The members cease to contribute to the old system and begin to contribute to the state fund in accordance with their age; all the assets of the fund are held by the locality as a trust fund and are applied to the payment of the benefits to the teachers already retired, which payment becomes an obligation of the locality. In case the contributor upon his transfer does not receive back the contributions which he or she has made to the discontinued system, the amount of such contributions is to be contributed by the state at the time of his retirement and to purchase for him an additional annuity or such other benefit as he may elect, over and above the benefits provided by the act.

CHAPTER XVIII

THE SCIENTIFIC PENSION LAWS OF 1919: NEW JERSEY, OHIO AND VERMONT

During the year 1919 three new scientifically constructed pension laws were placed on the statute books, thus bringing the total number of scientific pension laws to seven. These were: New Jersey, Ohio and Vermont. They differ in several respects from the systems of Massachusetts, Connecticut, New York City and Pennsylvania and deserve to be studied in detail. The text of these laws will be found in Appendix 3.

New Jersey. The investigation of the teachers' retirement situation in New Jersey conducted by the Pierson Commission with the assistance of the Bureau of State Research and described in chapter XII, culminated in the preparation and introduction in the legislature of three bills providing for a complete reorganization of the old retirement systems. They were passed by the legislature and enacted on April 10, 1919.

The most important of the three new laws (ch. 80) established a new retirement system, with joint contributions on an actuarial basis, which will gradually supersede the old double system. The second law (ch. 81) amended the teachers' retirement fund act by allowing the members of the fund to withdraw from it and absolving future teachers from any obligation to belong to it, in view of its insolvency. The third law (ch. 82) repealed the 35 year service pension act.

The reorganization effected under these laws is very different from the reorganization effected in New York City. Instead of liquidating the old system at one stroke and taking over at once all its assets and liabilities and its entire membership by means of compulsion as New York City did, New Jer-

sey allowed its old fund to continue to exist, only in a greatly reduced scope and under the condition that it gradually wind up its affairs, and it made withdrawal from it and entrance into the new fund entirely optional. This gradual liquidation was dictated by considerations of expediency rather than scientific preference.

Membership in the new system is compulsory for all new appointees but optional for teachers now in the service. The benefits provided by the system are as follows:

1. A superannuation allowance on or after the attainment of the age of 62 of approximately 1/70th of the average salary of the last five years multiplied by the number of years of teaching service (up to 10 years of service in public schools of other states included) minimum $400. The allowance consists of a pension of 1/140th of the average salary of last 5 years preceding retirement for each year of subsequent service and 1/70th for each year of prior service; and of an annuity of such amount as the contributions of the member will provide at the time of his retirement, on the basis of a mortality experience similar to that obtained in New York City and interest compounded at 4 per cent.

2. A disability allowance at any time before the attainment of the age of 62, provided the teacher has served 10 years in the state, of 1/70th of the average salary multiplied by the number of years of service (including up to 10 years service rendered in public schools of other states), minimum 30 per cent of salary, or $300.

3. An additional annuity to the former members of the retirement fund of such amount as their contributions to the old fund without interest will provide.

4. In case of resignation or dismissal before retirement, a refund to the teacher of all contributions together with interest at 3½ per cent.

5. In case of death before retirement, a return to the teacher's legal representatives of all his contributions together with interest at 3½ per cent.

6. Optional benefits as follows: a teacher may select at the time of retirement to convert the total reserve placed to his account into a smaller annual allowance with the provision

that the balance shall be paid on his death to any person whom he may designate, in the form of a lump sum or a life annuity.

The state will cover the total cost of the benefits for a prior service of present entrants (the accrued liabilities) and half of the cost of their benefits for future service. The annual contribution on that account will amount to 5.02 per cent of the total payroll of all members. It will have to be made for approximately 30 years when the entire obligation on account of the present members will be liquidated. On account of all new entrants the state will contribute a certain percentage of salary graduated according to the age of the entrant from 2 per cent up. The number of withdrawals from the service have been discounted so that the state contributes only on account of that number of members which will actually remain in the service and no part of its contributions will revert to it in cases of withdrawal.

In addition to this obligation, the state has assumed considerable liabilities in connection with the two old retirement systems. It took over the entire pension roll and such part of the annuity roll, (i. e. at least 80 per cent of it), as the retirement fund will be unable to pay. The liability thus taken over on account of the teachers already retired was estimated as of June 30, 1918—at $4,300,000. It was greater on September of the following year when the new system became effective.

The state assumed the entire cost of the guarantee of the rate of interest at 4 per cent and of the minimum allowance, and practically the entire cost of administration. In cases of withdrawal the difference between interest at 3½ per cent and the guaranteed rate of 4 per cent is applied to meet part of the cost of administration. The part so covered will be more or less insignificant.

The total obligations assumed by the state under the new system amount to approximately $24,000,000, which is to be divided as between different benefits approximately as follows:

Pensions and annuities already outstanding .....$	4,000,000
Superannuation allowances ($8,800,000 for prior service and $5,300,000, for future service)...	14,100,000
Disability allowances	5,300,000
Additional annuities in compensation of contributions made to the old retirement fund	300,000

The members contribute, according to their age, such a percentage of their salaries as will provide them at the age of 62 (assuming average advancement of salary) with an annuity of one one-hundred-fortieth of their average salary of the last 5 years preceding retirement. Any teacher who has reached 62 years of age and has completed 35 years of service may cease to contribute. The rates of contributions are as follows:

Age at entrance into the new fund	Men (percentage of salary)	Women (percentage of salary)
20	3.60	3.91
21	3.60	3.93
22	3.60	3.95
23	3.61	3.98
24	3.62	4.01
25	3.62	4.05
26	3.64	4.09
27	3.66	4.13
28	3.69	4.18
29	3.72	4.25
30	3.76	4.32
31	3.80	4.39
32	3.84	4.46
33	3.89	4.53
34	3.93	4.60
35	3.97	4.68
36	4.01	4.75
37	4.07	4.84
38	4.13	4.94
39	4.19	5.04

Age at entrance into the new fund	Men (percentage of salary)	Women (percentage of salary)
40	4.26	5.13
41	4.33	5.22
42	4.40	5.32
43	4.47	5.42
44	4.54	5.53
45	4.61	5.63
46	4.68	5.73
47	4.76	5.83
48	4.84	5.93
49	4.92	6.04
50	5.01	6.16
51	5.10	6.27
52	5.19	6.38
53	5.28	6.49
54	5.37	6.60
55	5.46	6.71
56	5.56	6.83
57	5.67	6.94
58	5.78	7.05
59	5.89	7.17
60	6.00	7.29

The average contribution of the member will be 4 per cent. The state will contribute approximately 8½ per cent of the salaries (including the accrued liabilities and the existing retired roll) i. e., more than twice the amount contributed by the teachers. It will have to increase its annual contribution from approximately $230,000 (the amount of the pension roll) to about $1,250,000 i. e. to more than five times the previous amount. Of the total contributions which the present teachers will pay into the fund in the future only $6,300,000, will be applied to the purchase of superannuation and disability annuities. The major part of their contributions will never be anything but mere savings accounts which will be withdrawn before retirement.

Every five years actuarial valuations are provided at which

the rates of contributions of the state as well as of the members can be either increased or reduced according to the results of the investigations of the mortality, service, and salary experience.

The system consists of six funds: the annuity savings fund and the annuity reserve fund for the members' contributions: the pension fund for the state's contribution for present active and retired teachers; the pension accumulation fund and the pension reserve fund for the state's contribution on account of new entrants; and the expense fund. The pension accumulation fund corresponds to the contingent reserve fund of the New York City and Pennsylvania systems. The term is more explicit, as it indicates that in this fund the reserves for the payment of pensions are accumulated.

The board of trustees consists of seven members: the commissioner of education, the state treasurer, one member appointed by the governor, three members elected by the members of the fund, and the seventh member elected by the six.

Noteworthy is the fact that in preparing this legislative measure the commission carefully sounded the opinions of the teachers. It gave a wide publicity to its proposals, carefully examined all the criticisms which they evoked and incorporated in the bill any reasonable suggestion that was advanced.

Originally the bill based retirement allowances on the average salary of the last ten-year period preceding retirement, as the latter afforded a more stable basis for the financing of the system and a more equitable one than an average taken throughout a shorter period. But the teachers urged the five-year basis in order that the pension of the teachers about to retire should not be smaller than the one provided under the old pension law. The commission yielded on this point, although it considerably increased the cost to the state.

The disability allowances were originally fixed at the one-seventy-fifth rate, but the commission changed it to the one-seventieth rate, same as superannuation allowances because the

superannuation age was fixed rather high and under such conditions disability benefits would naturally assume a considerable importance. In this way a teacher who became disabled at 57 after 35 years of service could retire on half pay.

Credit for outside service up to 10 years was incorporated in response to the demand of some teachers. In the case of present teachers the credit is provided entirely at the expense of the state. In the case of new entrants the cost of it was to be divided between the teacher and the state on a 50-50 basis; the teacher was allowed to pay the contributions for the years of outside service for which he claimed credit, either in a lump sum (which he could easily do if he transferred from a system which refunded to him his contributions) or by means of annual instalments.

The interest rate in case of withdrawals was fixed at 3½ per cent as a compromise between the 3 per cent rate originally provided in the bill and the 4 per cent urged by the teachers.

The prior service credit was made renewable in case a teacher left the service and subsequently returned.

The minimum of $400 for superannuation and $300 for disability was included because the teachers asked that some minimum be fixed. It was important in view of the small salaries in rural districts.

The guarantee of all benefits already granted was added when the bill was before the legislature. It was strongly urged by the teachers. Originally the bill guaranteed all pensions, but the annuities only in case of those who did not receive the pension; double beneficiaries would have suffered a reduction in their total benefit. Now they were guaranteed all that they received theretofore, even though the combined benefit often exceeded 100 per cent of their salary.

The only point urged by the teachers which the commission refused to concede was that the present teachers should be allowed to retire on half-pay after 35 years of service, irre-

spective of age. The teachers argued that they had this right under the existing law, and that it was not fair to take it away from them, and that it would not cost much as comparatively few would avail themselves of it. The commission replied that this right of the old law was against public policy as it allowed efficient teachers who were but 51 years of age to retire, and that it would add approximately $3,000,000 to the burdens of the state. There was considerable agitation on this point among the teachers and efforts were made to amend the bill in spite of the commission, but these efforts failed. The bill passed both houses without this amendment and was signed by the governor.

The enactment of this law closed, with a comparatively happy solution, the pension controversy which raged for more than 20 years in this state.

The new law compares very favorably with the laws governing other scientific systems. It provides larger benefits and adjusts the problem of the lower paid teachers in a more satisfactory way than some of the others do. It also presents a considerable advance so far as legislative drafting is concerned. It is built in accord with the real anatomy of a pension system. It consists of large divisions arranged in logical order. Each division consists of sections, which are grouped under proper subheads and each of which presents a complete thought and can be easily referred to and, if necessary, amended without disturbing the other parts of the structure. The skeleton of the law is as follows:

1. Definitions.
2. Establishment of System.
3. Membership.
4. Service Creditable.
5. Benefits.
    - Superannuations.
    - Disability.
    - Withdrawal and Death Benefits.
    - Optional Benefits.
    - Benefits of Teachers now Retired.

6. Actuarial Basis.
7. Funds Created. Contributions Thereto and Payments Therefrom.
   - Funds Derived from Members' Contributions.
   - Funds Derived from Employers' Contributions.
8. Collection of Contributions.
   - Collection of Members' Contributions.
   - Collection of Employers' Contributions.
9. Administration.
   - Board of Trustees.
   - Administrative Staff and Procedure.
   - Management of Funds.
10. Other Provisions.
    - State Supervision.
    - Exemption from Taxation.
    - Protection against Fraud.
    - Repealer.

Ohio. As early as 1896 a pension law for teachers was enacted in Ohio. It applied only to first class cities. Subsequent amendments (1900, 1902, 1904 and 1911) extended it to other cities, increased the salary deductions to $2 monthly and allowed the cities to contribute up to 2 per cent of the school taxes. All these laws were of permissive character. Only the larger cities and a few of the smaller ones availed themselves of the permission to establish retirement funds. The revenues provided were insufficient to finance the funds on a permanent basis. The collapse of pension funds in other states and their reorganization on a sound basis helped to call the attention of the leading teachers of Ohio to the shortcomings of their own system and the need of its reorganization. A movement was started and an organization formed which, with the assistance of experts, framed a bill providing for the establishment of a new state-wide pension system on an actuarial basis. The bill passed the legislature and became a law in May, 1919.

The new system differs in several respects from the New York City, Pennsylvania and other recently enacted systems. All present teachers, who do not belong to a local pension fund,

who do not notify their employing board that they desire to be exempted from membership in it, become members of it. This feature is different from the compulsory feature of the New York City system which allows no one to stay out of the system as well as from the optional feature of systems which admit only those present teachers who apply for membership. Under the latter arrangement many teachers remain outside of the system not because they do not want to join but because they cannot make up their mind and take a definite action. Under the Ohio arrangement a large proportion of them would drift into the system, not because they would desire to join but because they would hesitate or otherwise fail to apply for exemption. As a further measure designed to increase the membership of the system it is provided, that "each teacher shall be deemed to be a member of the retirement system and shall have the right to vote" at the first election of the members of the board of trustees and "any teacher in a local district pension system who exercises such right to vote shall be deemed to have petitioned for a merger with the state teachers' retirement system."

A teacher may retire at the age of 60. Power is given to the board to retire him on the request of his employing board, as in other systems. On retirement he is entitled to:

(a) Such an annuity as his contribution of 4 per cent of salary (all members contribute at the same rate irrespective of their age or sex) will provide;

(b) a pension from the state of an amount equal to the annuity and

(c) an additional pension, if the teacher is a present teacher, of 1 1/3 per cent of his average salary of last 10 years multiplied by the number of years of prior service. Optional retirement is provided after 36 years of service irrespective of age, but only on an actuarial equivalent of his benefit at that time, i.e. usually on a greatly reduced benefit.

In order that the retirement allowances in rural districts

might not fall below the level of subsistence, it is provided that no teacher retiring after 36 or more years of service shall receive less than $25 per month and that in no case shall the retirement allowance of a teacher who was a member of a local pension fund at the time of the enactment of the new law be less than the amount which he would have received under the provisions of the local fund.

The retirement allowances produced are, especially in the case of new entrants, smaller than the retirement allowances of either the New York City or New Jersey systems. In the case of women teachers and especially those entering the service at a late age the allowances reach a rather low level, (even lower than in Pennsylvania) as may be seen from the following table. The system would have been much more equitable and efficient had the rates of contributions been graduated according to age and sex, instead of being fixed at the same flat rate for all, irrespective of their different status.

RETIREMENT ALLOWANCES EXPRESSED AS PERCENTAGES OF THE AVERAGE SALARY OF LAST 10 YEARS IN CASE OF NEW ENTRANTS ENTERING AT VARIOUS AGES AND RETIRING AT 60 (THE ALLOWANCE CONSISTS OF AN ANNUITY PROVIDED BY A CONTRIBUTION OF 4 PER CENT OF SALARY AND OF A PENSION OF AN EQUIVALENT AMOUNT).

Age of Entrance	Percentage Allowable to Men Teachers Per Cent	Percentage Allowable to Women Teachers Per Cent
20	59.94	50.33
21	57.65	48.80
22	56.20	47.00
23	54.65	45.70
24	53.25	44.20
25	51.72	42.82
26	50.00	41.20
27	48.25	39.75
28	46.55	38.35
29	44.80	36.85
30	42.81	35.09

Retirement Allowances (Continued)

31	41.00	33.55
32	39.35	32.00
33	37.50	30.50
34	35.85	29.00
35	33.76	27.50
36	32.20	26.00
37	30.45	24.75
38	28.55	23.25
39	26.90	21.95
40	25.17	20.41
41	23.50	19.20
42	21.90	17.90
43	20.30	16.50
44	18.75	15.30
45	17.38	14.07

It must be noted that the contributioins are made on the basis of a salary not exceeding $2,000. The higher paid teachers and school officials will therefore receive allowances of smaller proportion to their salary than others.

In case of disability after 10 years of service, the teacher is entitled to a retirement allowance, including his annuity and pension of 1/5 per cent of his average salary of the last 10 years for each year of service, with a minimum of 30 per cent of salary, and a maximum of 90 per cent of the retirement allowance to which he would have been entitled at 60. A teacher retiring at 50 or 55 years of age after 30 years of service will be entitled to a disability allowance of 36 per cent of his salary. On retiring after 35 years of service he will receive 42 per cent.

A credit for service rendered in public schools of other states is allowed only to present teachers and only on condition that the teacher cover the entire cost of such credit. When a present teacher leaves the service, his prior-service certificate becomes void and not renewable. Both of these features are open to criticism. The provisions of the New Jersey systems are more satisfactory in this respect.

In cases of resignation or dismissal the teacher or his representatives are to receive all his contributions with interest at 4 per cent *ten years after the resignation or dismissal.* This deferred refund is a novel feature. In the absence of any experience with this feature it is difficult to say whether or not it is practicable and will satisfy the teachers.

In cases of death before retirement the teachers' contributions with interest are paid to his legal representatives at any time. Optional benefits similar to those of other systems are provided.

The body employing the teacher pays each year on account of each teacher a certain "normal contribution" which is fixed at such a percentage of salary as will provide the teacher with a pension equal to his annuity, and a certain "deficiency contribution" also expressed as a percentage of salary to cover on a reserve basis the accrued liabilities of the system. The immediate cost to the employers will be approximately 5.6 per cent of salary (2.8 per cent normal contribution and 2.77 per cent deficiency contribution).

The total assets and liabilities of the system are as follows.

LIABILITIES		ASSETS	
Superannuation Allowances for future service	$14,750,336	Teachers' Contributions	$13,360,924
Additional Allowances	11,536,085	Employers' Contributions	25,296,805
Disability Allowances	8,492,001	Total	$38,657,729
Refund	3,879,307		
Total	$38,657,729		

The system is managed by a retirement board consisting of five members: the state superintendent of public instruction,

the state auditor and three teacher members elected by the members of the system. The teachers have therefore a majority voice in the board—a feature which can hardly be approved in view of the fact that the major part of the moneys of the system are government funds and the system vitally affects public interest and is largely a government function.

The provisions regarding the merger of local funds with the state system is somewhat different than in Pennsylvania. If a majority of the members of a local pension fund vote in favor of a merger with the state system and the board of education approves it, then the fund is merged under the following conditions: an actuarial valuation of the fund is made and its accrued liabilities and the deficiency contribution necessary to cover the latter in case of a merger are determined; all the assets and the entire membership of the fund are transferred to the state which then assumes the payment of all benefits already outstanding or maturing under the new law in the future, but the locality must pay to it the deficiency contribution determined by the valuation.

The system consists of the following funds: the teachers' savings fund; the employers' accumulation fund, in which all contributions of the localities are accumulated; the annuity and pension reserve fund, to which the reserves are transferred on retirement and from which annuities and pensions are paid; the guarantee fund for the purpose of maintaining uniform interest and for special requirements; and the expense fund.

Vermont. In the year 1913 a law was passed in Vermont establishing there a teachers' retirement fund. The funds for its financing were to be raised by the Teachers' Retirement Fund Association. The state was to contribute an amount equal to that raised by the teachers, not exceeding, however, $10,000 annually. Annuities of half pay, maximum $500, were to be paid to members who retire after attaining 65 years of age. In cases of premature disability the retirement board

was to grant such an amount as it saw fit. The board was authorized to pay no annuities until in its judgment the fund was sufficient, or to pay only reduced annuities, or to give preference to certain classes. Approximately only fifty teachers out of a total of almost two thousand joined the fund. No annuities were paid. It was evident that the law was entirely inadequate to solve the teachers' retirement problem.

Efforts were, therefore, made to secure more satisfactory legislation. The assistance of the Carnegie Foundation was invoked and a new retirement plan was evolved and incorporated in a bill (Senate 63) which was introduced in the legislature of 1919. After being amended in several respects it was passed and became a law on April 8, 1919.

The new law authorized the establishment of a new retirement fund. It did not make its establishment mandatory as the original bill did. Neither did it make membership in it compulsory for future teachers, as provided in the original draft, but made it voluntary for all.

The system was intended to operate on a permanent and stable basis. Unfortunately the bill was amended by the insertion of a clause that "the total amount appropriated by the state in any one year to carry out the provisions of this act shall not exceed the sum of $25,000." This sum will, of course, be insufficient to finance the system permanently. If the majority of the teachers join it, it will be insufficient at the very outset. The system would, therefore, be placed in the same position as other systems had been, which made greater promises than they could fulfill but expected to secure amendments that would provide them with additional revenues when the time of stress would come.

All members will contribute the same percentage of salary. The exact rate will be determined each year by the retirement board. The law merely provides that the rate shall not be over 5 per cent. The minimum contribution is $16 and the maximum $100. After contributing for thirty years a mem-

ber may exercise his option as to whether or not to continue contributing. In adopting the uniform rate rather than one graduated according to age the framers of the system followed the example of Massachusetts rather than that of the New York City, Pennsylvania or New Jersey systems. The rigidity of the uniform rate which produces excessive benefits in case of early entrants and inadequate benefits in case of late entrants, and especially in case of women, has been pointed out in chapter IX and in the preceding section on the Ohio law and needs no further comment.

The law does not make it mandatory upon the state to contribute, as other pension laws do. It says that besides the members' contributions, the annuity fund "shall also consist of such amounts as *may* [not *shall*, as in other laws] be appropriated from time to time by the general assembly on estimates submitted by the retirement board." These estimates shall call for an appropriation "sufficient to enable the board to credit annually to each member . . . a sum equal to his contributions to the annuity fund and the additional allowance. . . . Provided, however, that the state shall not be called upon to pay into said annuity fund more than $100 in any year on account of the contributions of any member . . . nor shall the total amount appropriated by the state in any one year to carry out the provisions of this act exceed the sum of $25,000." The state can therefore at any time disregard the estimates of the retirement board, reduce its contributions or even altogether cease to contribute. The system can never be sure of its income.

Any member who has reached the age of 60, if a man, and 65, if a woman, and who has served for 30 years in the public schools, 20 of which must have been in the state, may retire on his own request or may be retired upon the request of his employer "without forfeiting any of the benefits of the retirement system." The latter sentence is rather queer, for it is hard to conceive how the benefits of a retirement system could

be forfeited on retirement. The wisdom of such a combined old age and long service requirement, as here provided, may be questioned. Experienced and leading teachers invited from another state may hesitate to enter the Vermont service after they have passed the 40 or 45 year mark if they know that because of the service requirement they would have to serve there beyond the superannuation age. It would not be advantageous for the state to force late-comers to serve beyond the time of their usefulness. The tendency of today reflected in most of the recent systems is to encourage desirable migration of teachers and take age as the basis for superannuation, without regard to length of service.

The retiring member receives an annuity of such amount as his and the state's contributions will provide on the basis of the McClintock 3½ per cent table. To provide against the inadequacy of the annuities in case of present old teachers, the law allows those of them who have entered after 45 years of age "such an additional allowance from the state as may be provided by the retirement board" provided that "the total annuity shall not exceed one half of his average salary." Present teachers entering at the age of 42, 43 or 44 would not be entitled to additional allowances when they retire, although their regular annuity especially in the case of the women retiring at 60 would be far below half pay. It may be more advantageous for them to postpone joining the system until they reach the age of 45—a point which may undoubtedly raise some confusion. No provision is made for future teachers entering at a late age, although their regular annuities would also be inadequate. The entire method of selecting the present teachers above 45 for the enjoyment of the additional allowance appears rather arbitrary. The broad discretion left to the board to determine in their case the amount of the additional allowance and the uncertainty in which in the meanwhile this class of members may be left as to the amount of their benefit is hardly a good feature.

Retirement for disability may take place any time after 6 years of service. But the disability is required to be "total and permanent." The permanency of disability for teaching is very difficult to determine. For this reason most of the scientific systems do not make such requirements but provide for periodical examinations, and reduction or discontinuance of the allowance, in case the disability decreases or altogether ceases and the teacher is partly or entirely reinstated. As the annuity of the retired member, purchased by the contributions accumulated to his credit, would frequently be insufficient, the law provides for him such additional annual allowance from the state "as the retirement board in the exercise of sound discretion, shall deem equitable, the same being limited by his earning capacity in other occupations." This additional allowance is to be continued "so long and in such amount as the retirement board may determine, but in no event shall the total sum received annually by such member exceed half of the average annual salary throughout his entire period of service." No other board of any other system is known to exercise as wide a discretion in this matter. It is generally conceded that rules ought to take place of discretion. In the absence of such rules, in this instance, every applicant would claim the maximum disability benefit of half pay (exceeding, perhaps, the superannuation benefit to which he might have entitled had he stayed in the service) on the ground that some one else has received it and the board may be greatly inconvenienced by such claims, especially as refusals would lead to accusations of unfairness.

In case of resignation, dismissal or death before retirement the original draft of the bill provided a refund of the member's contributions with interest, if the withdrawal or death occurred before 6 years of service, and of both the member's and the state's contributions with interest, if withdrawal or death occurred after 6 years of service. The intention was to go further than any other system along this line, as the furthest

that the other systems have gone is to refund the member's contributions with interest. The intention was excellent but was apparently not fully thought out. The feature was proposed and incorporated in the original plan without any careful actuarial estimate of its cost, although it was evident that the cost would be considerable. Its great cost was bound to affect unfavorably the retirement benefits, the adequacy and sound financing of which it is exceedingly difficult to realize in the beginning of the operation of a system, when the accrued liabilities are tremendous.

The program was partially thwarted as an amendment of the bill struck the interest out. The result is precarious. As the largest proportion of withdrawals occur before 6 years of service, the largest proportion of withdrawing teachers would receive only their contributions without interest, i.e. less than the members of the New York City, Pennsylvania, New Jersey, Massachusetts and Connecticut systems, which started with a less ambitious program, would receive under similar circumstances. Those withdrawing between 6 and 30 years of service would receive more than a refund of their contributions with interest would have provided them. Finally, in case of those withdrawing after 30 years, the combined member's and state's contributions without interest would approximately equal or even amount to less than the member's contributions with interest would have amounted to, because interest doubles a deposit in approximately 30 years.

At the time of retirement the member may elect to receive a smaller annuity with the provision that if he dies before receiving payments equal to the sum of his and the state's contributions accumulated on his account, the difference shall be paid as annuity to his legal representatives. In case of death of a disability beneficiary who receives in the form of an annuity less than the total accumulations of his and the state's contributions on his account, the difference is paid to his legal representatives.

The system is administered by the retirement board consisting of the commissioner of education, the state treasurer, the insurance commissioner and two members elected by the members of the retirement system.

The system consists of the following funds:

1. An annuity fund in which the contributions of the members and like contributions of the state together with interest shall be deposited and from which the annuities and the refunds shall be paid.

2. A reserve fund, consisting of gifts, returns to the state of its contributions to the annuity fund, and balances accruing from interest, etc., and which shall be used in the discretion of the board for unforseen contingencies, expenses of administration or other purposes.

3. Accrued liabilities fund, consisting of the moneys remaining from the old retirement fund, of such parts of reserve fund as the board may transfer thereto and such other funds as the board may receive for the purposes of meeting accrued liabilities. This fund shall be drawn upon from time to time as needed to make up the contributions of the state to the retirement allowances.

Actuarial revaluations are provided every three years and the board is empowered to change rates of members' contributions, except that such changes could not affect teachers who are members at that time, unless they assent to such changes.

It is to be regretted that no actuarial valuations of the obligations of the system were made when the bill was framed. The total cost of the scheme was practically unknown. The systems of New York City, Pennsylvania, New Jersey and Ohio at the time they were proposed were accompanied by valuations which clearly set before all the parties concerned the cost of the benefits involved. It is a sound practice and should have been followed. Unfortunately, too many factors were left uncertain. The rate of additional allowances, the rate of normal contributions of the members and of the state,

the rate of interest, and the mode of discharging accrued liabilities—all this was left for later determination, instead of being agreed upon before enactment, and made a valuation of assets and liabilities impossible. It was not surprising, therefore, that acting more or less blindly in this matter the legislators introduced in the bill an arbitrary limitation of the annual appropriation which would provide the system with an inadequate contribution.

The old law was repealed and provision was made that the old fund shall be merged into the new fund if its members vote in favor of it.

It is to be hoped that the defects mentioned herein will be corrected in the course of time and the new system will come into accord with the best precedents of scientific pension legislation.

APPENDICES

APPENDIX I

COMPARATIVE ANALYSIS OF TEACHERS' PENSION SYSTEMS

COMPARATIVE ANALYSIS OF THE TWENTY-FOUR TEACHERS' PENSION SYSTEMS DISCUSSED IN DETAIL IN PART II[1]

I—STATE SYSTEMS

State	No. of Teachers (1915-1916)	Contributions		Superannuation or Service Pensions				Other Benefits		
		By Teachers	By State	Minimum Retirement Age	Minimum Length of Service (Years)	Amount of Pension		At Disability	Upon Death	At Resignation or Dismissal Before Retirement
						Basis of Pension	Pension Scale			
California Teachers' Retirement Salary Fund, 1913	15,702	$1 monthly (Total contributions at date of retirement min. $360)	Appropriation if necessary 5% inheritance taxes	No	30 (15 in state)	..	$500	Yes, pension after 15 years' service in the state, 1/30 of $500 for each year of service	No	No
Connecticut Teachers' Retirement Fund. Est 1917. (Compulsory, optional at enactment)	5,525	5% of salary, min. $25, max. $100. No payments need be made either after they are sufficient to purchase an annuity of $500 at age 60, or after they have been paid for 30 years	An appropriation each year of the amount needed to pay the "pensions" of that year and the total administrative expense	60 and Compulsory at 70	15 or 35	.	Retirement allowance consisting of two benefits annuity and pension Annuity of such amount as teachers' contributions would purchase and pension paid by the state equal to the amount of annuity. Also additional pension for employees who had been in the service prior to the establishment of the system who had served 15 years and are eligible to retirement, this pension to be such as to make the total retirement allowance equal the amount which they would have received had they contributed for 30 years	Yes, if 55 years of age and retirement is approved by Retirement Board, same provision as for superannuation, if disabled before 55 years of age, refund of contributions with compound interest	Upon death before retirement: Refund of teachers' contributions with interest at compound scale. Optional benefits upon death after retirement. The teacher may at the time of retirement choose a smaller annuity and pension, with the provision that the balance should be paid to his dependent or assignee on his death in a lump sum or should purchase an annuity for such person	Refund of teachers' contributions with compound interest, teachers who have contributed for more than ten years may leave their contributions on deposit and receive such annuity as they would purchase

[1] For references to the laws governing these systems, and to other documents bearing on them, see Appendix II.

State	No. of Teachers (1915) 1916)	Contributions: By Teachers	Contributions: By State	Superannuation of Service Pensions: Minimum Retirement Age	Superannuation of Service Pensions: Minimum Length of Service (Years)	Amount of Pension: Basis of Pension	Amount of Pension: Pension Scale	Other Benefits: At Disability	Other Benefits: Upon Death	Other Benefits: Resignation or Dismissal Before Retirement
Illinois[1] Teachers' Pension and Retirement Fund 1915 Compulsory (Optional for present force up to Sept. 1, 1915)	24,947	$5 yearly first 10 years; $10 next 5 years; $30 yearly after 15 years (Minimum total contributions $400)	When necessary not exceeding 1/10 of a mill upon each dollar of assessed valuation of all taxable property of the state, exclusive of cities and districts not coming under this act.	50 and	25 (15 in state)	..	$16 for each year of service. Max. $400	Yes, pension after 15 years (2/5 in the state) same as col "Pension scale"	No	Yes; at resignation before 15 years; one-half own contributions
Maine School Pension Fund, 1913	6,965	None	$8,000 from school and mill fund for the first year $25,000 yearly thereafter	60 and	25 (20 in state)	.	$150 after 25 years' service; $200 after 30 years and $250 after 35 years. (Those who retired or were retired before 1913 receive one-half pension)	No	No	No
Massachusetts[2] Teachers' Retirement System Est 1913 Compulsory (optional at enactment)	14,237	Fixed by Retirement Board, min. 3%, max. 7% of sal; now, 5%; min $35, max $100. No contrib req. after 30 yrs' contributing. Max contri purchases $500 annuity at age 60	Amount necessary for the payment of pension deducted by the state from the annual apportionment. Total administrative expense	60 Compulsory at 70	No	.	Annuity according to accumulated contributions. Maximum $750, in addition a state pension equal to the annuity[3]	No pension only refund of contributions with 4% interest	Yes; refund of contributions with interest (according to the kind of annuity selected by the teacher)	Yes, refund of contributions with interest at resignation or dismissal after six years' contributions optional for a deferred annuity

[1] Except cities or districts over 65,000 population having at the time of enactment their own pension systems (Chicago and Peoria)
[2] Except Boston.
[3] Teachers appointed before 1914, who had at least 15 years' service in the state receive the same pension as if they had contributed for 30 years. The minimum retirement allowance (annuity plus pension) is $300 per year. If they served more than 30 years in the state, the thirty assessments are reckoned as having begun at the time of their entering service and as drawing regular interest until the time of retirement.

COMPARATIVE ANALYSIS OF THE TWENTY-FOUR TEACHERS' PENSION SYSTEMS DISCUSSED IN DETAIL IN PART II

I—STATE SYSTEMS

State	No. of Teachers (1915-1916)	Contributions		Superannuation or Service Pensions				Other Benefits		
		By Teachers	By State	Minimum Retirement Age	Minimum Length of Service (Years)	Amount of Pension		At Disability	Upon Death	At Resignation or Dismissal Before Retirement
						Basis of Pension	Pension Scale			
Michigan[1] Teachers' Retirement Fund, 1915 Compulsory (optional at enactment)	18,583	½% salary (max. $5) first 5 yrs.; 1% (max. $10) next 10 years; 2% (max $20) thereafter. (Total contributions: min. 1 year's pension.) In case of insufficiency of fund, Board may increase contributions from ½% to 1%, from 1% to 2%, from 2% to 3%	None[2]	No	25 (15 in state) Discretionary with the Retirement Board	Last 5 years' average salary	One-half salary; min., $300, max., $500 reduced by 1/30 of full pension for each year of service below 30 Board of Retirement may prorate pensions in case of insufficiency of fund	Yes; pension after 15 years service; 1/30 of full annuity for each year of service	..	Yes; at resignation one-half of own contributions without interest
Minnesota[3] Teachers' Insurance and Retirement Fund, 1915 Compulsory (optional at enactment)	14,759	$5 for first 5 years, $10 second 5 years, $20 next 10 years, $30 next 5 years. For salaries of $1500 and more 1½% salary (max. $20) first 10 years, 2% salary (max. $40) next 15 years	1/20 of a mill of all taxable property outside of cities of first class	No	20 (15 in state)	..	$350 for 20 years of service increased by $30 for each year of service after 20 and up to 25 years' service; max. $500 Board may prorate pensions in case of insufficiency of fund	Yes; pension after 15 years (10 in state); 1/20 of $350 for each year of service	Yes; refund one-half own contributions without interest, if no annuity has been drawn	Yes; at resignation refund one-half own contributions without interest

[1] Except Detroit.
[2] Donations, gifts, legacies and bequests constitute a permanent fund of which only the income is used.
[3] Except Minneapolis, St. Paul and Duluth.

State	No. of Teachers (1915) 1916)	CONTRIBUTIONS		SUPERANNUATION OF SERVICE PENSIONS				OTHER BENEFITS		
		By Teachers	By State	Minimum Retirement Age	Minimum Length of Service (Years)	Amount of Pension: Basis of Pension	Amount of Pension: Penson Scale	At Disability	Upon Death	At Resignation or Dismissal Before Retirement
New Jersey Teachers' Retirement Fund, 1896, 1903, 1906, 1907 Compulsory for teachers appointed after Jan. 1, 1908	16,741	2% of salary if teacher became member after less than 10 years of service. 2½% after more than 10 but less than 15 years and 3% after more than 15 years. Max. $50 yearly. (Total contributions min. 1 year's annuity; maxim. $1,000.)	None, except the expense of the Board of Trustees	..	..	..	..	Yes; annuity after 20 years in state; 6/10 average salary of last 5 years; min. $250, max. $650	No (since 1908)	No
New Jersey Teachers' 35-Year Service Half-Pay Pension System		None	Annual state appropriation of amount necessary for the payment of pensions	No or 75 or 70	35 (with 25 in state) and 32 in state and last 20 in state	Last 5 years' average salary	One-half salary	No	No	No
New York State[1] Teachers' Retirement Fund, 1911, 1913 Compulsory	24,102	1% salary (Total contributions min., one-half of one year's pension)	1% salary. Contributed by cities and districts; state appropriation if necessary	 65 60	25[2] (15 in state) and 25[3] and 35	Last 5 years' average salary	One-half salary, max. $600	Yes; pension after 15 years (9 in state); 1/25 of one-half salary for each year of service.	No	No

[1] Except New York City, Buffalo, Rochester, Syracuse, Albany, Yonkers, Troy, Mt Vernon, Cohoes, Westchester County.
[2] Discretionary with Retirement Board according to construction of law by Commissioner of Education in 1913 (See Doct. 3).
[3] These conditions have been determined upon by the Board of Retirement for Pensions on Demand (See Doct. 3).

COMPARATIVE ANALYSIS OF THE TWENTY-FOUR TEACHERS' PENSION SYSTEMS DISCUSSED IN DETAIL IN PART II

I—STATE SYSTEMS

State	No. of Teachers (1915-1916)	Contributions		Superannuation or Service Pensions				Other Benefits		
		By Teachers	By State	Minimum Retirement Age	Minimum Length of Service (Years)	Amount of Pension		At Disability	Upon Death	At Resignation or Dismissal Before Retirement
						Basis of Pension	Pension Scale			
Pennsylvania Public School Teachers' and Employees' Retirement System[1] Est. 1917 Compulsory (optional at entrance)	31,740	Such percentage of salary as will purchase at age 62 a pension of one-half the final salary. Rates vary from 3.33% to 5.30% for men and from 3.69% to 6.39% for women. An employee may reduce his contribution but not below 5%. Contributions are calculated on salaries up to $2,000; above that they are optional[2]	8% of salaries paid employees annually (until 5.6 eventually) in amount to appropriations annually previous to establishment of system. Such percentage of salary as will be necessary, together with interest, to accumulate a reserve from which "pensions" of all new entrants could be paid[3]. Total administrative expense	62 Compulsory at 70	None	Final salary	The pension consists of 2 benefits: an "employees' annuity" and a "state annuity," an annuity of such amount as employees' contributions will purchase. A "state pension" of 1/160 of the final salary for each year of service prior to age 62 and an additional pension of 1/160 of salary for each year of service prior to the establishment of the system. Maximum 50% of salary	An "employees' annuity" of such an amount as his contributions will purchase and a "state annuity" which, together with "employees' annuity," will provide a retirement allowance of 1/90 of his final salary for each year of service. Min. 30% of final salary, except where the minimum exceeds 8/9 of the retirement allowance which the employee would have received had he deferred his retirement until age 62	Upon death before retirement: Refund of employees' contributions with compound interest at 4%. Upon death after retirement: The employee may at the time of his retirement choose a smaller annuity and pension with the provision that the balance should be paid to his dependent or assignee on his death in a lump sum or should purchase an annuity for such person	Refund of contributions with 4% compound interest

1 "Employees" include teachers and other employees.
2 By reducing his own contribution to 5%, the teacher does not reduce the contribution of the government in his behalf.
3 Provided that every semi-annual payment shall be at least 3% greater than in the preceding year, and that in every case the amount shall be sufficient when combined with that in the fund. To provide the pension payable during the current one-half-year to employees appointed before the establishment of the system.

State	No. of Teachers (1915-1916)	Contributions		Superannuation or Service Pensions				Other Benefits		
		By Teachers	By State	Minimum Retirement Age	Minimum Length of Service (Years)	Amount of Pension: Basis of Pension	Amount of Pension: Pension Scale	At Disability	Upon Death	At Resignation or Dismissal Before Retirement
Virginia Retired Teachers' Fund, 1908 Compulsory	13,120	1% salary[1]. Total contributions min. 30% of last 5 years' average salary (deducted from first year's pension if less than 30%)	$5,000 annual appropriation	58 for men; 50 for women	30 in state	Last 5 years' average salary	One-half salary for salary below $1,000; max. $400 for salary over $1,000; max. $500 (one-quarter salary for those retired in 1902-1908) Board of Education may pro-rate pensions in case of insufficiency of fund.	Yes; pension after 20 years' service; same as col. "Pension Scale[2]"	No	No
Wisconsin[3] Teachers' Insurance and Reitrement Fund, 1911 Compulsory (optional at enactment)	14,597	1% salary first 10 years (max. $15), 2% next 15 years (max. $30). (Total contributions min. 1 year's pension; max. 25 contributions $600)	10 cents for each person of school age in the state set aside from certain school taxes	No	25 (18 in state)	..	$12.50 for each year of service max. $450 Retirement Bd. may pro-rate pensions in case of insufficiency of fund	Yes; pension after 16 years' service in state, same as col. "PensionScale"	..	Yes; at resignation or dismissal one-half of own contributions without interest

[1] Deducted from the payroll of the preceding year.
[2] Pension forfeited if pensioner recovers from disability, re-engages in teaching or woman teacher marries (L. 1912).
[3] Except Milwaukee.

COMPARATIVE ANALYSIS OF THE TWENTY-FOUR TEACHERS' PENSION SYSTEMS DISCUSSED IN DETAIL IN PART II

II—CITY SYSTEMS

City	No. of Teachers (1915-1916)	Contributions		Superannuation or Service Pensions				Other Benefits		
		By Teachers	By City	Minimum Retirement Age	Minimum Length of Service (Years)	Amount of Pension: Basis of Pension	Amount of Pension: Pension Scale	At Disability	Upon Death	At Resignation or Dismissal Before Retirement
Baltimore Teachers' Retirement Fund Est. 1909 Compulsory (optional at enactment)	2,183	1% salary (max. $14.40) first 10 years; 1½% (max. $21.50) next 10 years; 2% salary (max. $28 80) thereafter. (Total contributions min. 1 year's pension)	Appropriation in the discretion of the city authority	No	40 (20 in city)	Last 5 years' average salary	One-half salary, min. $360, max. $600	Yes; pension after 20 years, 1/80 salary for each year of service	Yes; refund one-half own contributions	Yes; one-half own contributions
Boston Teachers' Retirement Fund Est. 1900 Compulsory (optional at enactment)	3,054	$18 yearly (Total contributions min. $540)	None	No	30 (10 in city)		Determined each year by the Board of Trustees. Max $180. Paid $168 in 1903, $180 in 1904-1914, $132 in 1915[1]	Yes; ann. after 2 years' service; same as col. "Min. Retirement Age" (reduced if total contributions are below $540.)	No	Yes; at resignation after two years; one-half of own contributions
Boston Teachers' Permanent Fund Est. 1908		None	7 cents[2] upon each $1,000 of assessed valuation of taxable property	65 and 10 in city In the discretion of the school committee		Final salary	1/90 salary for each year of service; min. $312; max. $600. 1/90 of salary or 1/30 of $312 or of $600[3] for each year of service below 30[4]; pensions can be prorated (not below $312 after 30 years' service) in case of insufficiency of fund.	Yes; pension after 10 years' service in the discretion of the school committee; same as preceding col	No	No

[1] Actuary stated in 1914 that the condition of the fund allows the payment of only $81.
[2] Previous to 1915 only 5 cents.
[3] The $312 basis is for salaries below $936; the $600 basis for salaries over $1,800.
[4] Act 1910 provided that a pension of minimum $180 shall be paid by the school committee to minimum sixty annuitants of the retirement fund who have retired before 1908.

City	No. of Teachers (1915-1916)	Contributions: By Teachers	Contributions: By City	Superannuation or Service Pensions: Minimum Retirement Age	Superannuation or Service Pensions: Minimum Length of Service (Years)	Amount of Pension: Basis of Pension	Amount of Pension: Pension Scale	Other Benefits: At Disability	Other Benefits: Upon Death	Other Benefits: At Resignation or Dismissal Before Retirement
Buffalo Teachers' Retirement Fund Est. 1896 Amended 1909	2,136	1% to 2% salary, (Total contributions min. 40% salary, max. $1500)	Maximum appropriation equal to teachers' contributions of the previous year	No	35 for men 30 for women (4/5 in city)	Final salary	One-half salary, max. $800 Board of Trustees maypro-rate pensions in case of insufficiency of fund	Yes; pension after 25 years for men, 20 years for women (4/5 in city) amount same as preceding column	No	Yes; own contributions without interest at resignation or dismissal
Chicago Teachers' Pension and Retirement Fund Est. 1896 Amended 1907, 1911, 1913 Compulsory	7,992	50c. monthly[1] first 5 years, $1 second 5 years, $1.50 third 5 years; $3 after 15 years. (Total contributions min. $450)	Amount equal to teachers' contributions [2] (interest on schoolfund plus appropriation); may be increased to double teachers' contributions[3]	No	25 (3/5 in city)	..	$400 Board of Trusteesmaypro-rate pensions in case of insufficiency of funds	Yes, pension after 15 years (3/5 in city) such proportion of $100 as the total contribution bears to $450	No	Yes; one-half of own contributions at resignation, all at dismissal.

[1] Ten deductions in a year.
[2] Mandatory since 1913, permissive since 1911 (Interest on school funds since 1907).
[3] Since 1912.

COMPARATIVE ANALYSIS OF THE TWENTY-FOUR TEACHERS' PENSION SYSTEMS DISCUSSED IN DETAIL IN PART II

II—CITY SYSTEMS

State	No. of Teachers (1915-1916)	Contributions		Superannuation or Service Pensions				Other Benefits		
		By Teachers	By State	Minimum Retirement Age	Minimum Length of Service (Years)	Amount of Pension: Basis of Pension	Amount of Pension: Pension Scale	At Disability	Upon Death	At Resignation or Dismissal Before Retirement
Cleveland Teachers' Pension Fund. Est. 1907. Amended 1911 Compulsory (optional at enactment)	3,693	$2 monthly. (Total contributions min. $20 for each year of service; deducted from pension if less; max. total contributions $600)	Minimum 1%; maximum 2% gross receipts of taxation raised by School Board; absence and tardiness deductions	No	30 (15 in county)	..	$12.50 for each year of service max. $450 (pension may be prorated in case of insufficiency of fund)	Yes; pension after 20 years (one-half in county) at the discretion of the Board of Education	Yes; refund one-half own contributions	Yes; at resignation one-half of own contributions; at dismissal before 20 years all own contributions; at dismissal after 20 years' pension.
Denver Teachers' Retirement Fund Est. 1909	1,095	None	Special levy upon school district; maximum 1/10 mill.	60 for men and 55 for women	25 (15 in district)	..	Max. $360	Yes; pension after 10 years in district; same as preceding col.	No	No
New Orleans Teachers' Retirement Fund Est. 1910; 1914 Compulsory (optional at enactment)	1,294	1% salary first 10 years, 1½% next 10 years, 2% thereafter. Total contributions min. 1 year's pension (deducted from first 5 years' pension if less)	None	65 or	30 (10 in city) on demand; 40 in the discretion of the Board	Last 5 years' average salary	One-half salary, min. $300, max. $600	Yes; pension after 5 years; 1/40 of one-half salary for each year of service	Yes; refund one-half own contributions without interest	Yes; one-half of own contributions at resignation. Full amount without interest at dismissal.

State	No. of Teachers (1915) 1916)	Contributions		Superannuation of Service Pensions				Other Benefits		
		By Teachers	By State	Minimum Retirement Age	Minimum Length of Service (Years)	Amount of Pension		At Disability	Upon Death	At Resignation Dismissal Before Retirement
						Basis of Pension	Pension Scale			
New York City Teachers' Retirement Fund Est. 1894 . . . Amended 1895, 1917 Compulsory	23,905	Present employees: Such percentum of salary as shall be sufficient to purchase at age 65 an annuity which, together with pension, will amount to one-half average salary. Teacher may reduce contribution but not below 3%. A greater percentum if it is desired to purchase a larger annuity. New entrants: Such percentum of salary as shall be sufficient to provide at the minimum age an annuity of one-quarter average salary	For present employees; $1,000,000 annually to the Reserve Fund together with such appropriations as will be necessary to pay the pensions. For New Entrants: Same amount as paid by teachers. Total administrative expense	65 or Compulsory at 70	35	Average salary of last 10 years of service	Retirement allowance consisting of two benefits annuity and pension; amount of annuity such as the teachers' contributions would purchase; pension paid by the city of one-quarter of average salary and also additional pension of 1/35 of one-quarter of salary for each year of service prior to Sept. 16, 1917 (not exceeding 35 years of service)	After 10 years of service, such annuity as the teachers' contributions would purchase. A pension paid by the city of 1/5 of the average salary plus additional pension of 1/35 of one-quarter of average salary for each year of service prior to Sept. 16, 1917 (not exceeding 35 years) Before 10 years of service, refund of teachers own contributions with compound interest at 4%	Upon death before retirement: Refund of teachers' contributions with interest at 4%; and an additional lump sum benefit of one-half of the last year's salary if the teacher was eligible to retirement Optional benefits: upon death after retirement: the teacher may at the time of retirement choose a smaller annuity and pension with the provision that the balance should be paid to his dependent or assignee on his death in a lump sum or should purchase an annuity for such person	Refund of contributions with 4% compound interest

COMPARATIVE ANALYSIS OF THE TWENTY-FOUR TEACHERS' PENSION SYSTEMS DISCUSSED IN DETAIL IN PART II

II—CITY SYSTEMS

State	No. of Teachers (1915) 1916)	Contributions		Superannuation of Service Pensions				Other Benefits		
		By Teachers	By State	Minimum Retirement Age	Minimum Length of Service (Years)	Amount of Pension: Basis of Pension	Amount of Pension: Pension Scale	At Disability	Upon Death	At Resignation or Dismissal Before Retirement
Philadelphia Teachers' Retirement Fund, 1907 Compulsory (optional at enactment)	5,895	1% salary first 10 years, 2% thereafter, max. $50 (Total must equal min. 25 contributions) (deducted from pension if less)	Appropriation of an amount equal if possible to teachers' contributions of the preceding year	60 Optional with teachers at age 60 with 30 years' service	30 (20 in city)	Final salary	One-half salary, min. $400; max $1,000; pension may be prorated in case of insufficiency of fund	Yes; pension in the discretion of the Board after 5 years' service; 1/30 of full pension for each year of service[1]	No	Only at dismissal; own contributions
Pittsburgh[2] Teachers' Retirement Association Est. 1912 Compulsory	2,405	None	Annual appropriation for the amount necessary to pay pensions.	No	25 (One-half in Pittsburgh)	..	$500	No	No	No

[1] May be supplemented by a pension from the Elkin Fund; maximum $400

[2] A bill for a contributory pension system is now under consideration of the legislature. The basis of the proposed system is as follows: Contributions by teachers 1% to 3% salary. Total contributions maximum $1,500. City contributions minimum 1½ of the teachers' contributions or as much as is necessary to pay pensions. Pensions after 30 years' service on superintendent's recommendation, after 40 years automatically (minimum 15 years in city), or after 20 years on disability. Amount $600 after 40 years, $500 after 30 years, proportionately less below 30 years. Refund all own contributions at dismissal; no refund at resignation or upon death (see Carnegie Report, 1915).

APPENDIX

REFERENCES TO LAWS, STATISTICAL REPORTS, ETC., RELATIVE TO ALL THE TEACHERS' PENSION SYSTEMS IN THE UNITED STATES

NOTE: The following contains, with respect to every teachers' pension system now in operation in the United States (May, 1918) a list of the laws (including laws no longer in force) and statistical reports bearing on the system, as well as of all published accounts descriptive of it. In a few cases defeated bills bearing on the system have been listed because of some special significance.

The arrangement is alphabetical, by states, local systems being listed alphabetically under the several states.

Where not otherwise indicated, the figures giving the number of teachers embraced in the several systems are for the year 1915–1916, and are taken from the report of the United States Commissioner of Education for 1917.

Valuable synoptic information relative to the provisions of most of the systems is contained in analytical tables and charts which have been published in various reports and monographs on this subject. Nine of these tables are listed below, and a Roman number assigned to each. References are made in the body of the appendix to these charts by these numbers, such references being in every case given under the heading—"Analyzed in Comparative Charts."

List of Comparative Charts

I. Review of Reviews. June, 1897. v. 15, p. 710-11.

II. U. S. Bureau of Education. Teachers pensions. 1908. p. 13-15. (60th Cong., 2d sess. Senate. Doc. 585. Serial no. 5407)

III. U. S. Bureau of Labor. Pension funds for municipal employees, etc. 1910. p. 14-35. (61st Cong., 2d sess. Senate Doc. 427. Serial no. 5658)

IV. Massachusetts. Board of Education. Special report on teachers retirement allowances. 1913. p. 33-41. (House. Doc. 1913, no. 1926)
V. Journal of Education. June, 1913. v. 77, p. 705; July, 1913, v. 78, p. 20.
VI. Prosser, C. A. The teacher and old age. 1913. p. 120. Appendix B.
VII. National Education Association of the U. S. Committee on teachers' salaries and cost of living. Report. 1913. p. 272-81.
VIII. Massachusetts. Commission on Pensions. Report. 1914. p. 312-31. (House. Doc. 1914, no. 2450.)
IX. Carnegie Foundation for the Advancement of Teaching. Annual report. v. 10, 1915, p. 86-99.

Abbreviations used to indicate books referred to frequently and library reference marks:

Bur. Ed. Bull. 1908. Bureau of Education (U. S.) Bulletin 1908, No. 7. N. Y. Libr.

Bur. Ed. Bull. 1916. Bureau of Education (U. S.) Bulletin 1916, No. 14, State pension systems for public school teachers. Prepared for the Natl. Educ. Assn. by Carson Ryan and Roberta King. 37 p.

Bur. Lab. Bureau of Labor (U. S.) Report on Pension Funds for Municipal employees and railroad pension systems. *In* the U. S. Senate, Doc. No. 427, 61st Cong., 2d Sess., 1910.

Carn. Found. Carnegie Foundation for the Advancement of Teaching. Annual reports (1906-1915) v. I-X.

Com. Ed. Commissioner of Education (U. S.) Washington, D. C. Annual Reports, in 2 volumes.

Ed. Rev. Educational Review. Monthly ed. by N. M. Butler, New York.

Jour. Ed. Journal of Education, Boston.

Mass. Bd. Ed. Massachusetts Board of Education. Special report on teachers' retirement allowances, Jan., 1913, 47 p. *In* Mass. House Docs. 1913, No. 1926.

Mass. Com.—Old Age Pens. Mass. Commission on Old Age Pensions, Annuities and Insurance, Jan., 1910. *In* Mass. House Docs. 1910, No. 1400.

Mass. Com. Pens. Massachusetts Commission on Pensions, Report 1914, March 16. *In* Mass. House Docs. 1914, No. 2450.

N. Ed. Assn. National Education Association. Report of the Committee on teachers' salaries and cost of living, Jan., 1913, 326 p.

N. Ed. Assn., 1905. National Education Association. Report of the Committee on salaries, tenure and pensions, July, 1905, 465 p.

N. Ed. Assn. Proc. National Education Association. Journal of Proceedings and addresses of annual meetings. N. Y. Libr.—SSA.

N. Y. Com. Pens. Teach. Ret. N. Y. Commission on Pensions. Report on the Teachers' Retirement Fund, N. Y. 1915. N. Y. Libr.

Sen. Doc. 585. Senate Document (U. S.) 585, 60th Cong. 2d sess., 1908-09. Teachers' Pensions. N. Y. Libr.

Prosser. C. Prosser. The teacher and old age, Riverside Educational Monographs, 1913, 139 p. N. Y. Libr. SIW.

Rev. of Rev. Review of Reviews, (New York) Monthly ed. by Albert Shaw. N. Y. Libr. DA.

ARIZONA

ARIZONA TEACHERS' RETIREMENT SYSTEM. Established 1912.

Number of Teachers, 1,539. Non-contributory.

Laws

Sess. Laws 1912, ch. 95.

Establishing a non-contributory state-wide system, repr. in Ar. Sch. L., 1913, ch. XVI, p. 63-4 and in N. Ed. Assn., p. 282.

Descriptions

Comm. Ed. 1912, v. 1, p. 65.

Describes merits of the 1912 scheme.

Analyzed in comparative charts (Act. 1912), VII, VIII, IX.

CALIFORNIA

CALIFORNIA TEACHERS' RETIREMENT SALARY FUND. Established 1913.

Number of Teachers, 15,702. Contributory.

Laws

Sess. Laws 1895, ch. 166, March 26. Establishing voluntary system; repr. in Comm. Ed. 1894-95, p. 1100-02. Amendments: 1897 March 29; 1901 March 31; 1903 March 20; 1909 March 11; 1911 March 1.

Law 1895 reprinted in amended form in Cal. Sch. L. 1911, p. 285-302 and in N. Ed. Assn., p. 282. 1913, ch. 694, March 26 (establ. state-wide system).

Assembly Bill, No. 1263, ch. 694, 7 p. (text of the law 1913)

Reports and statistics

Biennial Reports, 1913-14, 1915-16. Contains financial statement and list of annuitants.

Descriptions

Lange, A. A., A proposal for a state retirement system. In Sierra Educational News (San Francisco) Dec., 1909, p. 22-26.

Comm. Ed., 1909, v. 1, p. 117. (Describes amendm. 1909) 1913, v. 1. p. 914. (Describes law, 1913).

Carn. Found., 1912, p. 34. (Description of pens. bill) 1914, p. 30. (Brief description of new system).

Analyzed in comparative charts (Act 1913); IV, VI, VII, VIII, IX.

For a history and criticism of this fund, see p. 195.

San Francisco Retirement Fund. Established 1897.

Number of Teachers, 1,621. Contributory.

Laws

See under California; laws 1895-1911.

Descriptions

Comm. Ed., 1903-04, v. 2, p. 2281-82.

N. Ed. Assn., 1905, p. 183.

Analyzed in comparative charts III, IV.

COLORADO

Denver Teachers' Retirement Fund. Established 1909.

Number of Teachers, 1,095. Non-contributory.

Laws

Sess. Laws 1909, ch. 214, May 5. Permissive for 1st class district to establish retirem. fund; repr. in N. Ed. Assn., p. 291; also in Colo. School Law, 1915, p. 191-92.

Reports and statistics

Report of the School District, No. 1, 1913-1914, p. 22-23. Statement of receipts and disbursements.

Analyzed in comparative charts (Act 1909); IV, VII, VIII, IX.

For a history and criticism of this fund, see p. 219.

CONNECTICUT

Connecticut Teachers' Retirement Fund. Established 1917

Number of Teachers, 5,525. Contributory.

Laws

Spec. Sess. Laws 1899, ch. 123, May 17. Incorporating the Conn. Teachers' Annuity Guild.

Publ. Sess. Acts 1907, ch. 373, July 11. Appropr. $10,000 for the Conn. Teachers' Annuity Guild for two years.

Also see under New Haven and New London.

Senate Bill No. 61, 1915. *In* Conn. School Document, No. 4, 1915, p. 58-61.

Proposed a state-wide, non-contributory system; was passed by the legislature, but vetoed by the governor on the ground of being unconstitutional.

Acts 1917, ch. 411, establishing a state-wide system.

For a history and criticism of this fund, see p. 239.

New Haven Teachers' Pension Fund. Established 1911.

Number of Teachers, 779. Contributory.

Laws

Spec. Sess. Acts, 1911; July 18.

Special act amending charter and establishing fund in New Haven.

Analyzed in comparative charts (Act 1911): IV, VII, VIII, IX.

New London Teachers' Pension Fund. Established 1911.

Number of Teachers, 119. Contributory.

Laws

Publ. Sess. Acts, 1911, No. 461. (Establ. fund in New London.)

Analyzed in comparative charts; VII, VIII.

DELAWARE

Wilmington Teachers' Retirement Fund. Established 1911.

Number of Teachers, 377. Contributory.

Laws

Sess. Laws, 1911, ch. 208. (Establ. fund in Wilmington) 1913, ch. 210, amending law, 1911.

Descriptions

Comm. Ed. 1911, v. 1, p. 99. (Describes law 1911.)

Analyzed in comparatice charts (Act 1911): VII, VIII, IX.

DISTRICT OF COLUMBIA

Laws

A Bill to Establish a P.S. Teachers' Retirement Fund in the District of Columbia. H.R. 18295, 61 Cong., 2nd Sess. 1910 May 21, 12 p. (Bill has not passed.)

Constitution and By-Laws of the Teachers' Annuity and Aid Association, Jan. 1915, 40 p. (Private fund.)

Reports and statistics

Teachers' Retirement Fund, Report No. 1379, H.R. 61st Cong., 1910, 4 p.

Submitted in support of the bill H.R. 18295, 61st Cong., 2nd sess.

Teachers' Annuity and Aid Association of the District of Columbia. 21st and 22nd annual meeting, Jan. 1915 and 1916, 8-page folders.

Report of the treasurer. Receipts and Disbursements. Membership.

Descriptions

Comm. Ed. 1909, v. 1, p. 120. (Describes pension bill.)

Carn Found. 1912, p. 34. (Describes pension bill of the Bd. of Ed.)

GEORGIA

ATLANTA TEACHERS' RETIREMENT SYSTEM. Established 1910.

Number of Teachers, 795. Non-contributory.

Laws

Atlanta Charter and Ordinances, City Code 1910, s. 495-500. Establ. retir. system in Atlanta.

Sess. Laws, 1912, Part III, title 1, No. 619, act amending sect. 26 of city charter.

Analyzed in comparative charts. VIII.

COLUMBUS TEACHERS' RETIREMENT SYSTEM. Established 1913.

Number of Teachers, 113. Non-contributory.

Laws

Sess. Laws, 1913, No. 92, Aug. 11.

Also printed in the Public School Laws of Columbus, Ga. 1914, p. 8-9 (B.M.R. Collection); amendm. of city charter providing for pensions to be granted in the discretion of the authorities after 25 years of service; max. $25 monthly.

ILLINOIS

ILLINOIS TEACHERS' PENSION AND RETIREMENT FUND. Established 1915.

Number of Teachers, 24,947. Contributory.

Laws

Sess. Laws 1895, May 31, p. 312-15.

Permissive act for cities over 100,000 pop. (Chicago) repr. *In* Comm. Ed. 1894-95, p. 1081-82.

1901 May 11, p. 300-01. (Withdrawing compulsory feature.)

1907 May 24, p. 529-34.

Mandatory act for cities over 100,000 pop. (Chicago) new section added; repr. *In.* Bur. Ed. Bull., p. 147-50.

1911 June 6, p. 513-16.

Permissive for cities of 1,000 to 100,000 pop.; repr. *In.* N. Ed. Assn., p. 292-94.

1913 June 27, p. 598-603.

Special act for cities of 10,000 to 100,000 pop. (Peoria.)

1915 June 29, p. 648. (Amending 1913 act for Peoria.)

1915 May 27, p. 649-657. (Establ. state-wide system.)

Also see under Chicago and Peoria laws 1909, 1911, 1913 and 1915.

State Teachers' Pension and Retirement Fund, 1915, 10-p. pamphlet. Contains text of the laws of 1915.

Bur. Ed. Bull., p. 150.

Court decisions regarding compulsion and other features of the Chicago system, 1901-07.

Attorney General. Opinions re Teachers' Pension Fund. *In* Educational Press Bulletin (monthly of the Dept. of Publ. Instruction) May, 1916, p. 2-3.

Descriptions and digests

Carn. Found. 1915, p. 52. (Describing law 1915.)

Comm. Ed. 1903-04, V. 2, p. 2282. (Extr. from law 1901.)
1907 v. 1, p. 454. (Extr. from law 1907.)
1911 v. 1, p. 98. (Describing law 1911.)

Analyzed in comparative charts IV (1911); VII, VIII (1913); IX (1915).

For a history and criticism of this fund, see p. 176.

CHICAGO TEACHERS' PENSION AND RETIREMENT FUND. Established 1896.

Laws

Number of Teachers, 7,992. Contributory.

Sess. Laws 1895, May 31, p. 312-15.
Act for cities over 100,000 pop.; repr. in Comm. Ed. 1894-95, v. 1, p. 1081.
1901 May 11, p. 300-01 amend. (Withdrawing the compulsory clause.)
1907 May 24, p. 529-34 amend. (New sections added.)
1909 June 12, s. 152-165, p. 384-388 substituting all previous laws. Providing that interest on the deposits of school moneys should be devoted to the retir. fund.

Sess. Laws 1911, June 5 and 6, p. 511-512; 512 amend. L. 1909. (Requiring Bd. of Ed. to contribute an amount equal to teachers' contributions.)
1913 June 26, p. 594-595 amend. L. 1909. (Increasing contributions.)

Board of Trustees of the P. S. Teachers' Pensions and Retirement Fund. Rules and regulations as amended in 1911, 27-p. pamphlet.

Board of Trustees. Rules and regulations in force on April 17, 1914, 59 p.

Also contains the text of the law as amended in 1913.

Reports and statistics

Comm. Ed. 1898-99, v. 2, p. 1478-79.

Contains a report of the teachers' committee regarding the conditions of the fund at that time; statistical tables.

Board of Trustees of the P. S. Teachers' Pension and Retirement Fund. Official reports of regular and special meetings, 1909-14, 2-p. leaflets.

Descriptions
Comm. Ed. 1911, v. 1, p. 98.
Brief description of the development of legislation governing the Chicago fund.
Ed. Rev. 1902, Feb. p. 156.
Describes the campaign against compulsion to join the fund.
Analyzed in comparative charts III, IV, VII, VIII, IX.
For a history and criticism of this fund, see p. 220.

PEORIA TEACHERS' PENSION AND RETIREMENT FUND. Established 1911.
Number of Teachers, 425. Contributory.
Laws
Sess. Laws, 1913, June 27 (Approving the establishing of a fund in Peoria).
1915, June 29, p. 649, amending law 1913.
Board of Management . . . . Rules and regulations adopted Oct. 30, 1913. 21-p. booklet.
Contains also the law 1913 and by-laws.
Reports and statistics
Board of Management for the Teachers' Pension and Retirement Fund Proceedings 1911-14. 32-p. booklet.
Proceedings of the meetings and financial reports.

INDIANA

INDIANA STATE TEACHERS' RETIREMENT FUND. Established 1915.
Number of Teachers, 17,706. Contributory.
Laws
Sess. Act, 1907, ch. 170, March 9.
(Permissive for cities over 100,000 pop. [Indianapolis] to establ. p. funds; repr. in B. Ed. Bull., p. 153-155.)
1913, ch. 77.
(Permissive for cities of 55,000 to 60,000 pop. [Terre Haute] to establish p. fund.)
1913, ch. 334, March 15.
Permissive for cities of 20,000 to 1000,000 pop.
1915, ch. 182.
Establ. a State Teachers' Retir. Fund which any district may join if majority of teachers favor it.
See also under Indianapolis, law 1915.

Joint Committee, Indiana . . . . A bill to provide for an Indiana State Teachers' disability and retirement law. *In* Educator Journal (Indianapolis), 1910, p. 163-70.

State Teachers' Retirement Law 1915, 22-p. booklet. Text of the law and notes.

Descriptions

Carn. Found. (1912) p. 34 (Describes pension bill).
1914, p. 37 (Describ. laws 1907-1913).
1915, p. 50 (Describ. law 1915).

Comm. Ed. 1907, v. 1, p. 454-56. (Describes law 1907.)

Analyzed in comparative charts: VIII (1913), IX (1915).

EVANSVILLE (Established 1913; now merged with the state fund).

Laws

See under Indiana; laws 1913 and 1915.

INDIANAPOLIS TEACHERS' PENSION FUND. Established 1907.

Number of Teachers, 1,201. Contributory.

Laws

Sess. Laws, 1907, ch. 170, March 9.
Permissive for cities over 100,000 pop. to establish pension funds; repr. in B. Ed. Bull. p. 153-155, in Ind. Sch. L. 1911, p. 202-211, in N. Ed. Assn. p. 294-298.
1915, ch. 66, March 5. (Increasing city's contribution.)

Indianapolis P. S. Teachers' Pension and Disability Law. 11-p. booklet.

Reports

Indianapolis P. S. Teachers' Pension Fund. Detailed report for the seven-year period, 1907-14, annual reports. 7 typewritten pages.
Statistics of receipts and disbursements.

Analyzed in comparative charts: III, IV, VII, VIII (1907); IX (1915).

SOUTH BEND TEACHERS' RETIREMENT FUND. Established 1914.

Number of Teachers, 340. Contributory.

Laws
See under Indiana; law 1913.

TERRE HAUTE TEACHERS' RETIREMENT FUND. Established 1913.
Number of Teachers, 401. Contributory.
Laws
Sess. Laws, 1913, ch. 77.
Permissive for cities of 55,000 to 60,000 pop. to establish pens. funds.
Teachers' Retirem. Fund Law and By-Laws.—issued by the Board of Commissioners, 1913, 20-p. booklet. Contains also a table of assessments and annuities.
Analyzed in comparative charts: VIII, IX.

IOWA

Reports
State Teachers' Association.—Committee of the Educational Council. Pensions and Tenure of Office of Teachers. *In* its Proceedings, 1908, p. 30-34.
Descriptions
Carn. Found. 1914, p. 35-36.
Describes defeated pension bill.

KANSAS

Laws See under Topeka, Kans.; law 1911.

TOPEKA. Established 1911.
Number of Teachers, 262. Contributory.
Laws
Sess. Laws, 1911, ch. 280.
Permissive for 1st class cities; repr. in N. Ed. Assn., p. 298.
Descriptions
Comm. Ed. v. 1, p. 99 (describes law 1911).
Analyzed in comparative charts: VII, VIII, IX.

KENTUCKY

Laws
Sess. Laws, 1912 ch. 129, March 19 (permissive for 1st class cities) 1914 ch. 17, March 14 (establ. Ins. & Annuity Fund for 2nd class cities).
Analyzed in comparative charts: IX.

LOUISVILLE TEACHERS' INSURANCE AND ANNUITY FUND. Established 1912.

Number of Teachers, 883. Entirely contributory.

Laws

Sess. Laws, 1912, ch, 129, March 19 (permissive for 1st class cities).

Analyzed in comparative charts: (Act 1912) IV, VII, VIII, IX.

LOUISIANA

NEW ORLEANS TEACHERS' RETIREMENT FUND. Established 1910.

Number of Teachers, 1,294. Entirely contributory.

Laws

Sess. Laws 1910, ch. 116.

Establ. Teachers' Retir. Fund for the parish of N. Orl. 1914, ch. 263.

Lowering requirements from 40 years' service to 30 years' service or age 65.

Act No. 116 creating the Bd. of Trustees of the Teachers' Retire. Fund, 1910, 16-p. booklet.

Act No. 263 of the year 1914 amending act No. 116 of the year 1910 . . . . 8-p. booklet.

Reports and Statistics

Board of Trustees . . . . Annual reports of 1914, 1915, 4-p. booklet. Statement of receipts, disbursements, membership and pension roll.

Analyzed in comparative charts III, VII, VIII, IX.

For a history and criticism of this fund, see p. 218.

MAINE

MAINE SCHOOL PENSION FUND. Established 1913.

Number of Teachers, 6,965. Non-contributory.

Laws

Sess. Laws, 1913, ch, 75, March 19.

Establ. state-wide system; repr. in State Supt.'s Report 1914, p. 103-107.

Application for Teachers' Pensions. Text of the law 1913. Rules and regulations. 4-p. leaflet.

Descriptions

Comm. Ed. 1913, v. 1, p. 915. (Extract from law 1913.)

Carn. Found. 1912, p. 33. (Describes pension bill.)

State Supt. Report 1914, p. 103-107. (Describes the establishment, operation and effects of the law.)

Analyzed in comparative charts (Act 1913) V, VI, VIII, IX.

For a history and criticism of this fund, see p. 173.

MARYLAND

MARYLAND RETIREMENT SYSTEM. Established 1902.

Number of Teachers, 4,277. Non-contributory.

Laws

Sess. Laws, 1902, ch. 196, April 8.

Establ. state-wide discretionary system.

1904, ch. 584, sec. 58.

Increasing appropriation from $10,000 to $25,000.

1908, ch. 605, April 6, p. 226 amendment.

1912, ch. 13, April 8 amendment.

Increasing administr. discretion repr. in N. Ed. Assn. p. 304.

Also see under Allegheny Co., L. 1912; Baltimore 1908, Baltimore County 1912.

Descriptions

Carn. Found. 1912, p. 26. (Describes law 1908.)

1914, p. 25 and 31.

Describes the unsatisfactory condition of the fund and amendm. 1912.

Analyzed in comparative charts: III, IV, VI (1902); VIII, IX (1912).

ALLEGHENY COUNTY TEACHERS' RETIREMENT FUND. Established 1912.

Laws

Sess. Laws, 1912, ch. 463, April 8.

Establ. Teachers' Retirm. Fund in Allegheny County.

Board of Trustees, Teachers' Retirem. Fund of the Allegheny County, 4-p. leafl.

Text of act 1912.

Reports

Statement on the condition of the teachers' retirem. fund 1915, 1916. Four mimeogr. pages. (Receipts and disbursements.)

Analyzed in comparative charts: VIII.

BALTIMORE TEACHERS' RETIREMENT FUND. Established 1909.

Number of Teachers 2,183. Contributory.

Laws

Sess. Laws 1908, ch. 78, March 12, p. 595-603.
Established Retirement Fund for Baltimore City.

Teachers' Retirement Bill, as passed by the Maryland Legislature, 1908- 8p.

Analyzed in comparative charts III, VII, VIII.

For a history and criticism of this fund, see p. 214.

BALTIMORE COUNTY TEACHERS' RETIREMENT FUND. Established 1912.

Laws

Sess. Laws, 1912, ch. 83, April 1.
Establ. Retirem. Fund for Baltimore Co.

MASSACHUSETTS

MASSACHUSETTS TEACHERS' RETIREMENT SYSTEM. Established 1913.

Number of Teachers, 14,237. Contributory.

Laws

Sess. Acts and Resolves 1908 ch. 498, April 30, and ch. 589. Permissive for any city to establish pension system; reprint. In Sch. Laws 1911, p. 78; N. Ed. Assn. p. 305; Bur. Ed. Bull. p. 155.
1913, ch. 832, June 19 (Establ. state-wide system).
1914, ch. 494.
1915, ch. 198. Reducing service requirements for refund benefits.)
1916, ch. 54, 60, 238, 257, 152. (Resolves).
1917, ch. 233, introducing a disability provision.

Also see under Boston, Mass.

Reports and statistics

Teachers' Retirement Board:
First, second and third annual reports, Dec. 31, 1914, 1915, 1916. Review of the provisions and condition of the fund.
Bulletin No. 1, 1913 and No. 2, 1915, 30 p.
Description and text of the law 1913.

Descriptions

Angier, E. M. New plan of teachers' annuities; savings bank insurance in Massachusetts. *In* Education (Boston) Dec. 1909, p. 229-233.

Bur. of Ed. Bul. p. 155-158. (Describ. law 1908.)

Carn. Found. 1913, p. 46. (Describes law 1913.)
1914, p. 28 and 29.
Discusses the good features of the act 1913.
Comm. Ed. 1907, v. 1, p. 449.
Describ. insufficiency of income of the Teachers' Annuity Guild; extracted from 70th report of the Mass. Bd. of Ed. p. 323-325.
1908, v. 1, p. 104. (Describ. law 1908.)
1913, v. 1, p. 914. (Describ. law 1913.)
Bd. Ed. 70th report p. 323-325.
Describes unsatisfactory condition of the Mass. Annuity Guild; its appeal for support.
Bd. Ed. p. 11-30. (Proposed pension bill.)
Russel, Eugene D. The teachers' annuity guild. *In* Jo. of Ed. (Mass.) Dec. 17, 1908, p. 659-663.
Description of the annuity guild, which is a private fund.
Analyzed in comparative charts: III, IV, VII (1908); VI, VIII, IX (1913).
For a history and criticism of this fund, see p. 234.
BOSTON TEACHERS' RETIREMENT FUND. Established 1900.
Number of Teachers, 3,054. Contributory.
Laws
Sess. Acts and Resolves 1900, ch. 237, Apr. 17.
Establ. Teach. Retire. Fd.
1902 ch. 233 (Amend. Teach. Retirem. Fd.)
1908 ch. 589, June 3.
Establ. Permanent Fund; reprint. in Bur. Ed. Bull., p. 156-8.
1910 ch. 617.
(Amending Permanent Fund, increasing the pension and extending it to sixty annuitants of the Retirement Fund.)
1912 ch. 569.
Boston Teachers' Retirement Fund Association. Constitution and By-Laws 1912.
Reports and statistics
Committee on Finance. Report to the Bd. of Trustees of the Boston P. S. Teachers' Retirement Fund, 1902, 6 p.
Recommending the amount of annuity in 1903 to be $168.

Comm. Ed. 1907, v. 1, p. 448-49.
Report of the retirem. fund, reprinted from Mass. Bd. Ed. 70th report, p. 320-23.
Montgomery, W. J., State Actuary. Report to the Bd. of Trustees of the Boston Teachers Retirement Fund, Sept. 16, 1914, 14 p.
Analyzes the unsatisfactory condition of the fund, defines the amount of annuity it can sustain and proposes certain recommendations to strengthen the fund.
Secretary of the Teachers' Retirement Fund, Annual Reports, 1900-1914. (4-page leaflets.)
Permanent Pension Fund, Annual report for the year 1916. *In* the Minutes of the Boston School Committee, Feb. 21, 1916, page 19.

Descriptions

Carn. Found. 1912, p. 41. (Description of the Retirem. Fund.)
Comm. Ed. 1894-95, v. 1, p. 1079-81.
Description of the establishment of the Mut. Ben. Assn.; extract from Supt's report.
1903-4, v. 2, p. 2282. (Describes act 1900.)
Mass. Bd. Ed. 70th report, p. 320-23.
Describes Retir. Fund and Mutual Benefit Association; receipts and disbursements.
N. Ed. Assn. 1905, p. 183. (Describes retir. fund.)
Mass. Com. Old Age Pens., p. 278.
Description of the Retirement and Permanent Fund.
Mass. Com. Pens., p. 31-63.
Actuarial rept. showing a deficiency in the Retirement Fund of $1,312,687.
p. 149-153 (history and legislation).
p. 205-207 (proposed ligislation).
Boston School Committee. Circular of information, 1915, p. 38. Brief description of provisions of the Permanent Fund.

Analyzed in comparative charts III.. (Benev. Assn. 1889; funds 1900-08); IV, VII, VIII, IX (1900-12).
For a history and criticism of this fund, see p. 209.

BOSTON TEACHERS' PERMANENT FUND. Established 1908.
See Laws under Boston Teachers' Retirement Fund above
For a history and criticism of this fund, see p. 212.

BROOKLINE
Number of Teachers, 196. Non-contributory.
Laws: See under Mass. Act. 1908.

MICHIGAN

MICHIGAN TEACHERS' RETIREMENT FUND. Established 1915.
Number of Teachers, 18,583. Entirely contributory.
Laws
Publ. Acts, 1915, ch. 174, May 11.
Establishing state-wide system.
Also see under Detroit Laws 1895 and 1907.
Descriptions
Carn. Found. 1915, p. 53. (Describes law 1915.)
Analyzed in comparative charts: IX.
For a history and criticism of this fund, see p. 200.

DETROIT TEACHERS' RETIREMENT FUND. Established 1895.
Number of Teachers, 2,396. Contributory.
Laws
Loc. Sess. Acts 1895, ch. 431, May 22.
Establ. Retir. Fund in Detroit; printed together with by-laws in Comm. Ed. 1894-95, p. 1082.
1907, ch. 536, May 14. (Amendment making membership compulsory.)
Board of Trustees of the P. S. Teachers' Retirement Fund. 12-p. booklet. (Text of law 1907, constitution and by-laws.)
Reports and statistics
Board of Trustees . . . . Regular meeting, May 20, 1915; Sept. 20, 1915.
Receipts, disbursements, list of annuitants.
Descriptions
Comm. Ed. 1903-04, v. 2, p. 2283.
N. Ed. Assn. 1905, p. 182-183.
Analyzed in comparative charts: (Act 1907) : III, IV, VII, VIII, IX.

MINNESOTA

MINNESOTA TEACHERS' INSURANCE AND RETIREMENT FUND. Established 1915.
Number of Teachers, 14,759. Contributory.
Laws
Gen. Sess. Laws 1909, ch. 343, Apr. 21.

Permissive for cities over 50,000 pop. to establish pension system; repr. in Minn. Sch. L. 1911, p. 106; *In* N. Ed. Assn.

Gen. Sess. Laws 1911, ch. 383, Apr. 20.

Extending L. 1909 over cities exceeding 10,000 pop.; repr. *In* Sch. L. 1911, p. 106; *In* N. Ed. Assn., p. 305.

1915, ch, 199, Apr. 20.

Establ. state-wide system: Teachers' Insurance and Retirement Fund.

Department of Education, Minn. Law, 1915, ch. 199, 6-page booklet.

Descriptions

Comm. Ed. 1909, v. 1, p. 118. (Describes law 1909.) 1911, v. 1, p. 99. (Describes amendm. 1911.)

Carn. Found. 1915, p. 51-52. (Describes law 1915.)

Teachers' Insurance and Retirement Fund. Circular of information, July, 1915, 4-page leaflet.

Explaining the law.

Analyzed in comparative charts VII, VIII (1911); IX (1915).

For a history and criticism of this fund, see p. 190.

DULUTH TEACHERS' RETIREMENT FUND ASSOCIATION. Established 1911.

Number of Teachers, 469. Contributory.

Laws: See under Minnesota; law 1911.

Descriptions

Carn. Found. 1912, p. 36.

Analyzed in comparative charts: IV, VIII, IX.

MINNEAPOLIS TEACHERS' RETIREMENT FUND ASSOCIATION. Established 1909.

Number of Teachers, 1,606. Contributory.

Laws: See under Minnesota, Laws 1909 and 1911.

Reports and statistics: Minneapolis Teachers' Retirem. Fund Assn. Sixth Annual Report 1914-15. 16 p.

Contains a statement of receipts and disbursements, balance sheet and secretary's report.

Analyzed in comparative charts: III (1909); IV, VIII, IX (1911).

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION. Established 1909.

Number of Teachers, 959. Contributory.

Laws: See under Minnesota, Session laws 1909 and 1911.
Teachers' Retirement Fund Association, articles of incorporation and by-laws, 18 p.
Analyzed in comparative charts: III (1909); VIII, IX (1911).

MONTANA

Montana Public School Teachers' Retirement Salary Fund. Established 1915.
Number of Teachers, 4,731. Contributory.
Laws
Sess. Laws 1915, ch. 95, March 8.
Establishing state-wide system.
Retirement Salary Fund Board. P. S. Teachers' Retirement Salary Fund. 8-p. booklet. (Text of the law.)
Descriptions.
Carn. Found. 1915, p. 52. (Describes law 1915.)
Analyzed in comparative charts: IX.

NEBRASKA

Descriptions
Carn. Found. 1912, p. 52. (Describes Recommendations of the committee, 1915; listed by error as a law).
Neb. Supt. Ed. 23rd Report, p. 342-44.
Describes recommendations of the special committee as to the establishment of a state-wide system.
Analyzed in comparative charts: IX.
Recommendations of Special Committee; listed by error as a law.

Omaha Teachers' Retirement Fund Association. Established 1909.
Teachers' Annuity and Aid Association (private fund) establ. in 1897.
Number of Teachers, 947. Contributory.
Laws
Sess. Laws 1909, ch. 132, March 24.
Permissive for metropol. cities repr. in N. Ed. Assn. p. 306-307.
Teachers' Annuity and Aid Association. Articles of incorporation and By-laws, 33-p. booklet.
Descriptions
Carn. Found. 1914, p. 37.
Comm. Ed. 1909, v. 1, p. 115.

NEVADA

NEVADA TEACHERS' RETIREMENT SALARY FUND. Established 1915.

Number of Teachers, 657. Contributory.

Laws

Sess. Statutes 1915, ch. 198, March 23.
Establ. state-wide system.

Descriptions

Carn. Found. 1915, p. 54. (Describes law 1915.)

Analyzed in comparative charts: IX.

NEW HAMPSHIRE

NEW HAMPSHIRE TEACHERS' RETIREMENT SYSTEM. Established 1915.

Number of Teachers, 3,083. Non-contributory.

Laws

Sess. Laws 1915, ch. 165, April 21.
Establ. state-wide system.

Dept. of Public Instruction. Division of statistics and accounts.
Rules and regulations relating to Teachers' Pensions. 7-p booklet.

Text of the law and regulations.

Descriptions

Carn. Found. 1915, p. 55. (Brief description of Act 1915.)

Analyzed in comparative charts: IX.

NEW JERSEY

NEW JERSEY TEACHERS' RETIREMENT FUND. Established 1896.

NEW JERSEY TEACHERS' 35-YEAR SERVICE HALF PAY PENSION SYSTEM. Established 1903.

Number of Teachers, 16,741. Contributory.

Laws

Publ. Sess. Laws 1896, ch. 32, March 11.
Establ. Retir. Fund; 1 per cent sal. deduction.
L. 1899 ch, 178 (amend. Ret. F.).
L. 1900 ch. 96 (making Ret. F. Law a part of the school law).

Spec. Sess. Laws 1903, ch. 1, art. XXV, Oct. 19.
L. 1905 ch. 95 (appropriation for administ. expense of Ret. F.).

Sess. Laws, 1906, ch, 314, June 13. (Increasing salary deductions.)
Sess. Laws, 1917, ch. 139, May 7.
Sess. Laws, 1903, ch. 16, March 5 (establishing service pension system of the Bd. of Education).
Sess. Laws 1906, ch. 103.
Reducing length of service from 40 to 35 years.
1907, ch. 121, May 7 and 1912, ch. 58 amendment.
Reprint, in N. Ed. Assn.
1911, ch. 276 and 1912, ch. 58 amendment.
1914, ch. 268, Supplem. to Gen. School Law.
Pension to be paid by the state and not by local authorities; new section added.

Reports and statistics

State Teachers' Retirement Fund Association. Report of the Retirement Fund Department. *In* Annual Reports and Proceedings of the N. J. Teachers' Association, 1910, p. 160-75.

Report . . . . Sept. 25, 1915, 15 p.
Contains a statement of receipts and disbursements; comparison between N. J. and the N. Y. and Mass. funds; defense of its soundness; note reactuarial study; answer to criticism.

New Jersey Woman Teachers' Alliance. Compendium of Facts. 1918. Contains the report of D. P. Fackler, actuary, on the condition of the Teachers' Retirement Fund; introduction by Miss E. A. Allen; synoptical tables.

Bureau of State Research of the New Jersey State Chamber of Commerce. Teachers' Reirement Systems in New Jersey, Their Fallacies and Evolution. Prepared by Paul Studensky, 1918. 88 p. Analysis of the history of the systems, their present condition and practical remedies.

Pension and Retirement Fund Commission of the State of New Jersey. Preliminary report. January, 1918. State Research Consecutive number 9. 20 p. Contains in chapter iv a discussion of teachers' systems.

Pension and Retirement Fund Commission of the State of New Jersey. Reorganization of New Jersey Teachers' Pension and Retirement Systems, January, 1919. State

Research Consecutive number 13, 28 p. Contains critical and constructive conclusions, outline of proposed legislation and actuarial estimates.

Descriptions

Allen, Elizabeth A. The story of a woman's campaign. *In* Review of Reviews (N.Y.) 1897, v. 15, p. 701-11. Writer describes the campaign which resulted in the establishment of the N. J. Teachers' Retirement Fund; surveys the existing pension funds in the U. S.; presents a comparative table of annuity and aid associations and retirement funds in the U. S.

Board of Trustees of the Teachers' Retirement Fund. 1907, 23 p.
Contents: Preface, text of the law 1907, explanation synopsis and appeal to join.

Carn. Found. 1912, p. 27-30. (History of the fund.)
— — 1915, p. 62. (Warning the fund against the approaching disaster.)

Comm. Ed. 1894-95, v. 1, p. 1108-1113.
Description of a plan for a Newark Teachers' Retirement Fund; criticism and discussion.
1903-4, v. 2, p. 2283-84. (Extracts from the law and report of the fund.)
1907, v. 1, p. 452. (Report of the fund.)
1911, v. 1, p. 99. (Description of amendm. 1911.)
1912, v. 1, p. 67.
Description of amendm. 1912; comment on coexistence of two systems.

Crater, Georgia Beers. Teachers' Pensions. *In* N. J. State Teachers' Association. Annual Report and Proceedings 1900, p. 147-58.

State Teachers' Association. Tenure Retirement Fund and Pensions in peril. 9-p. pamphlet.
Contains an appeal to defeat the bill No. 375 merging the retir. fund with the state half-pay pension.

Analyzed in comparative charts III-IX.
In VII and VIII, the two systems are confused.

For a history and criticism of the two systems, see pp. 169 and 183.[1]

[1]See also Chapter XVIII and Appendix 3 (e) regarding three new laws (Ch. 80, 81 and 82) enacted in April, 1919.

NEW YORK

NEW YORK STATE TEACHERS' RETIREMENT FUND. Established 1911.

Number of Teachers, 24,102. Contributory.

Laws

Sess. Laws, 1895, ch. 767, May 27.

Permissive for any town to establ. pension funds; reprint in N. Ed. Assn. p. 308-12.

1911, ch. 449, June 26. (Establ. state-wide system.)

1913, ch. 511, Sec. 1100-1108. (Superintendent to participate.)

1914, ch. 44, Mar. 17.

Providing for a state-contribution of 1 per cent of sal.

Also see under: Albany, Buffalo, Cohoes, Elmira, Mt. Vernon, N. Y. City, Nassau, Rochester, Saratoga, Schenectady, Syracuse, Troy, Yonkers, Watervliet, Westchester.

Also see N. Y. L. 1910 ch. 441, June 8.

Retirem. Fund for teachers in state institutions.

State Teachers' Retirement Fund Board, Documents 1-3.

Doc. No. 2 contains the text of the law as amended in 1914; No. 3 contains portions of the law, by-laws, explanatory notes as to retirement, age, etc.; instructions to teachers.

Descriptions

Carn. Found. 1912, p. 30-33. (Describes law 1911.)

Comm. Ed. 1911, v. 1, p. 96. (Describes law 1911.)

1912, v. 1, p. 67. (Describes am. 1912.)

Analyzed in comparative charts: III-VIII (1911); IX (also 1913-14).

For a history and criticism of this fund, see p. 179.

ALBANY TEACHERS' RETIREMENT FUND. Established 1908.

Number of Teachers, 440. Contributory.

Laws

Sess. Laws 1907, ch. 414, June 4. (Establ. Retir. Fund.)

1910, ch. 451, June 9. (Increasing excise money contribution from 3 per cent to 5 per cent.)

Reports and statistics

Comptroller's report of the teachers' retirement fund for the years 1913-1915. (Two-page mimeographed leaflets.) B. M. R. Collection.

Analyzed in comparative charts: III, IV, VII.

BUFFALO TEACHERS' RETIREMENT FUND. Established 1896.

Number of Teachers, 2,136. Contributory.

Laws

Sess. Laws 1891, ch. 105.

(Permissive for Buffalo to establish Retir. Fd.)

1896, ch. 928 (establishing Retir. Fund in Buffalo; entirely contributory).

1909, ch. 554, May 28.

Increasing salary deductions and making city to contribute an equal amount.

1914, ch. 217, Apr. 7, sec. 294-304, city charter. No material changes.

Analyzed in comparative charts III, IV, VII-IX.

For a history and criticism of this fund, see p. 216.

COHOES TEACHERS' RETIREMENT FUND. Established, 1908.

Number of Teachers, 69. Contributory.

Laws

Sess. Laws 1908, ch. 332, May 19.

Establishing Retir. Fund in Cohoes.

Analyzed in comparative charts: IX.

ELMIRA TEACHERS' PENSION FUND. Established 1907; now merged with the State Teachers' Retirement Fund.

Laws

Sess. Laws 1907, ch. 86, March 27.

Establ. Pens. Fund; reprint, in Bur. Ed. Bull., p. 159-160.

Analyzed in comparative charts: III, IV.

GREEN COUNTY TEACHERS' RETIREMENT FUND. Established 1910; abolished in 1911.

Laws

Sess. Laws 1910, ch. 444. (Establishing retir. fund in Green County.)

1911, ch. 146.

Abolishing retir. fund teachers contribute to the state fund.

MT. VERNON TEACHERS' RETIREMENT FUND. Established 1909.

Number of Teachers, 246. Contributory.

Laws

Sess. Laws 1909, ch. 92, Mar. 17.

Establ. retir. fund in Mt. Vernon.
1913, ch. 44, Feb. 27 (Compulsory membership).
Analyzed in comparative charts: IX.

NASSAU COUNTY TEACHERS' RETIREMENT FUND. Established 1910; now merged with the State Teachers' Retirement Fund.

Laws

Sess. Laws 1910, ch. 407, June 7.
Establ. retir. fund in Nassau County.
1911, ch. 692. (Amending law 1910.)

NEW YORK CITY TEACHERS' RETIREMENT FUND. Established 1894.

Number of Teachers, 23,905. Contributory.

Laws

Sess. Laws 1894, ch. 296.
Establ. N. Y. fund; repr. in Comm. Ed. 1894-5, p. 1095.
1895, ch. 656. (Establishing Brooklyn fund.)
1898, ch. 91. (Providing the fund with a portion of excise taxes.)
1901, ch. 186 and 466. (Merging the two funds.)
1902, ch, 530.
1903, ch. 177.
1905, ch. 661. (Introducing the 1 per cent. sal. deduction.)
1907, ch. 167. (Reprint. in Bur. Ed. Bull. p. 160-3.)
1917. (Reorganizing the old fund on a scientific basis.)
By-Laws of Bd. of Ed. 1911, Jan. 18.

Descriptions

Carn. Found. 1912, p. 39-41. (Description of the history and condition of the fund.)
1913, p. 53-55. (Alarming condition of the fund.)
1914, p. 39. (Collapse of the fund.)
1915, p. 59-60. (Investigation of the N. Y. Pension Commission.)
Comm. Ed. 1894-95, v. 1, p. 1095.
Text of the law 1894; constitution of Mut. Ben. Assn.
1903-4, v. 2, p. 228. (Brief description.)
N. Ed. Assn. 1905, p. 183. (Brief description.)
See also under Reports.
Pension Points No. 1-5 and Circulars.

Issued during the pension campaign of Jan.-April 1916; explain provisions of the Lockwood-Ellenbogen bill and urge to support it.

Scrap-Book on the N. Y. Teachers' Retirement Fund. Contains newspaper clippings for the period 1912-16; campaign in favor of the Lockwood-Ellenbogen bill.

Federation of Teachers' Associations, N. Y. City. The A.B.C. of teachers' pensions. Memorandum submitted to the Senate Committee on Affairs of cities. *In* favor of the Lockwood-Ellenbogen bill. 1916, 20 p.
Describes the advantages of the proposed bill.

Paul Studensky. New York City Teachers' Retirement Fund. *In* National Municipal Review, July, 1916, p. 520-22.
Review of the report of the Commission on Pensions. Unsoundness of using miscellaneous revenues. Inadequacy of contributions. Purposes of pension funds. Harmful benefits. Plan of reorganization.

Reports and statistics

Commission on Pensions. Report on the Teachers' Retirement Fund, City of N. Y.
Prepared by Robert von Reutlinger, letter of transmittal by Henry Bruere, vice-chairman and secretary of the commission. Present pens. system. Its cost. A tentative reorganization plan. History of the fund and its administration. Actuarial report. Statistical tables.

Commission on Pensions. Report on the Pension Funds of the City of New York, Part I. Operation of nine pension funds, 1916, 171 p.
Prepared by Robert von Reutlinger, letter of transmittal by Henry Bruere, vice-chairman and secretary of the commission. A critical analysis; includes among the nine funds the teachers' fund.
Part II. An actuarial investigation of the mortality and service experience of the Special and General Service Funds for Municipal employees, 1916, 422 p.
Prepared by George B. Buck, actuary. Letter of transmittal by Henry Bruere, vice-chairman and secretary of the commission. Contains an introduction describing forces which determine cost; methods of computing rates. Includes tables and diagrams on family history and a valuation of assets and liabilities.

Secretary of the Board of Retirement of the Teachers' Retirement Fund. Annual reports 1908 to date.
1911 (contains a description of the efforts to amend the law).
1912 (contains a description of the condition of the fund; British and N. Zealand pens. systems).
1913 (contains the report of actuary Hutchinson, reprinted by the Globe in separate pamphlet. Actuary describes past and present systems; income and disbursements; teachers' service experience; mortality rates; valuation of liabilities; unsatisfactory conditions of the fund; constructive recommendations of the actuary.)

Analyzed in comparative charts: III, IV, VII-IX; also *In* N. Y. Com. Pens. Teach. Ret. p. 90-91.
Showing the changes in legislation from 1891 to 1911.
For history and criticism of this fund, see p. 243.

ROCHESTER TEACHERS' RETIREMENT FUND. Established 1906.
Number of Teachers, 1,178. Contributory.
Laws
Sess. Laws 1905, ch. 608, May 25. (Establ. Retirem. Fund in Rochester.) 1907, ch. 755, sec. 405.
Section of city charter amending law 1905.
Analyzed in comparative charts: III, IV VII-IX.

SARATOGA COUNTY TEACHERS' RETIREMENT FUND. Established 1910, now merged with the State Teachers Retirement Fund.
Laws
Sess. Laws 1910, ch. 191, Apr. 29.
Establ. Retirem. Fund in Saratoga County.

SCHENECTADY TEACHERS' RETIREMENT FUND. Established 1907, now merged with the State Teachers' Retirement Fund.
Laws
Sess. Laws 1907, ch. 306, May 6 (Establ. Ret. Fd. in Schenectady) 1908, ch. 116, Apr. 13 (Making city contribution equal teachers' contribution).
Analyzed in comparative charts: III, IV.

SYRACUSE TEACHERS' RETIREMENT FUND. Established 1897.
Number of Teachers, 667. Contributory.

Laws

Sess. laws 1897, ch. 750, May 22.

Establ. Retire.n. Fund in Syracuse; entirely contributory; reprint in a separate booklet.

Analyzed in comparative charts: III, IV, IX.

TROY TEACHERS' PENSION FUND. Established 1906.

Number of Teachers, 327. Contributory.

Laws

Sess. Laws 1906, ch. 305, April 24. (Establ. Pens. Fund in Troy.)

Analyzed in comparative charts: III, IV, IX.

WATERVLIET TEACHERS' RETIREMENT FUND. Established 1908, now merged with the state Teachers' Retirement Fund.

Laws

Sess. Laws 1908, ch. 140, April 16.

Establishing Retir. Fund in Watervliet.

WESTCHESTER COUNTY TEACHERS' RETIREMENT FUND. Established 1909.

Laws

Sess .Laws 1909, ch. 431, May 22.

Establishing Retirement Fund in Westchester County.

1911, ch. 23, March 16 am.

City's contribution to equal 1 per cent of sal.

YONKERS TEACHERS' RETIREMENT FUND. Established 1908; now merged with the State Teachers' Retirement Fund.

Laws

Sess. Laws 1908, ch. 452, May 21, city charter, article IX, sec. 18-20.

Establ. Retir. Fund in Yonkers.

Analyzed in comparative charts: III, IV, IX.

NORTH DAKOTA

NORTH DAKOTA TEACHERS' INSURANCE AND RETIREMENT FUND. Established 1913.

Number of Teachers, 8,093.[1] Contributory.

Laws

Sess. Laws 1913, ch. 251, March 11.

(Establ. state-wide system.)

Descriptions (Act 1913)

Carn. Found. 1914, p. 31.

[1]Statistics of 1915.

Comm. Ed. 1913, v. 1, p. 915.
Analyzed in comparative charts: VIII, IX.

OHIO

Note: Uniform laws (1911 at present) govern all the twenty cities which have availed themselves of the authority given under these laws. The references to legislation and to analysis of legislation in comparative charts are, therefore, given under the state and are not repeated under each of these pension funds: Bellefontaine (1912) No. of Teachers, 49; Canton (1913) No. of Teachers, 290; Chillicothe (1913) No. of Teachers, 80; Cincinnati (1897) No. of Teachers, 1,807; Cleveland (1906) No. of Teachers, 3,693; Columbus (1909) No. of Teachers, 996; Dayton (1911) No. of Teachers, 557; Fremont (1914) No. of Teachers, 64; Hamilton (1908) No. of Teachers, 164; Lakewood (1914) No. of Teachers, 152; Massillon (1914) Norwalk (1913) No. of Teachers, 51; Norwood (1912) No. of Teachers, 114; Piqua (1913) No. of Teachers, 72; Sandusky (1910) No. of Teachers, 104; Springfield (1907) No. of Teachers, 238; Tiffen (1911) No. of Teachers, 51; Toledo (1910) No. of Teachers, 983; Youngstown (1905) No. of Teachers, 536; Zanesville (1914) No. of Teachers, 121. All these systems are contributory.[1]

Laws

Sess. Laws 1896, Apr. 14, p. 152-55, sec. 3897 of Rev. St. Permissive for cities of 1st grade 1st class.
1900, Apr. 16, p. 305. (Increasing sal. deductions to $2 monthly.)
1902, May 12, p. 609-14. (Permissive for all school districts.)
1904, Apr. 25, p. 340. (Providing for city contribution up to 2 per cent of school taxes.)
1911, June 13, p. 445-56. (Making membership compulsory; reprint. in Sch. L. 1912, p. 167, sec. 7875-7896 of Gen. Code; N. Ed. Assn., p. 313-315.)

Descriptions

Bur. Ed. Bul. p. 163-64.

[1]See Chapter XVIII and Appendix 3 (f) regarding a new state-wide pension law enacted in April, 1919.

Court decisions as to compulsory membership, etc.
Comm. Ed. 1903-4, v. 2, p. 2284-85 (describes law 1902). 1911, v. 1, p. 97 (describes law 1911).
Jones, E. A. A state-wide pension system. *In* Ohio Educational Monthly, July, 1910, p. 317-24.
Analyzed in comparative charts: III, IV, VII-IX.

CANTON—(See note under Ohio)
Reports and pamphlets
Report of Teachers' Pension Fund, 1913-15. Two mimeographed pages.
Receipts and disbursements, annuity list.

CINCINNATI—(See note under Ohio)
Reports and statistics
Board of Trustees of the Cincinnati Teachers' Pens. Fund. Annual report. *In* Com. Ed. (U. S.) 1907, v. 1, p. 452.
Receipts and disbursements, etc.
Board of Trustees of the School Teachers' Pension Fund. Eighteenth Annual Report, Aug. 31, 1915. 8-page pamphlet.
Receipts, disbursements, pension list, amounts contributed by pensioners and amounts drawn by them.
Descriptions
Comm. Ed. 1898-99, v. 2, p. 1481.
Describes new law increasing contributions to save the fund from depletion.

CLEVELAND TEACHERS' PENSION FUND. Established 1907. (See note under Ohio.)
Laws
School Teachers' Pension Law as amended May 31, 1911. Rules and Regulations, Cleveland, 1914. 16-page pamphlet.
Reports and statistics
Annual Reports of the Treasurer of the Teachers' Pension Fund, 1912, 1913, 1914 and 1915. (4-page leaflets.)
For a history and criticism of this fund, see p. 207.

DAYTON—(See note under Ohio)
Reports and pamphlets
Annual Report of the Secretary of the Board of Trustees of the Fund. 4-page leaflet, receipts and disbursements for the years 1913 and 1914.

NORWOOD—(See note under Ohio)

Reports and statistics

School Teachers' Pension Fund. In Report of the Publ. School of Norwood, 1914. p. 56-57 (Reports of receipts and disbursements for the years 1913-1914).

SPRINGFIELD—(See note under Ohio)

Reports and statistics

Pension Trustees. Reports 1909-1915. 2-p. leaflets. Receipts and disbursements, list of contributors.

TOLEDO—(See note under Ohio)

Laws

School Teachers' Pension Law. Rules and regulations as amended in 1910, 16 p.

Reports and statistics

Board of Trustees of the School Teachers' Pension Fund. Statement, October 1, 1914, 3 p.

OREGON

Laws

Gen. Sess. Laws 1911, ch. 280.

Permissive for districts having more than 10,000 children of school age to establ. retir. funds; reprint. in School Laws 1911, p. 114.

1913, ch. 58.

Increasing contribution of the District Bd. of Ed. from 1 per cent to 3 per cent of school taxes.

See under Portland, Oregon.

PORTLAND TEACHERS' RETIREMENT FUND ASSOCIATION. Established 1912.

Number of Teachers, 525. Contributory.

Laws: See under Oregon.

Articles of Incorporation and By-Laws. Teachers' Retirement Fund Association, District No. 1, Multnomah County, March 12, 1914, 21 p.

Reports and statistics

Statement of Retir. Fund. Assn. 1912-1916. 2 typewritten pages. Receipts and disbursements.

Descriptions

Comm. Ed. v. 1, p. 99. (Describes law 1911.)

Analyzed in comparative charts: VII (1911); VIII and IX (1913).

PENNSYLVANIA

PENNSYLVANIA PUBLIC SCHOOL TEACHERS' AND EMPLOYEES'[1] RETIREMENT SYSTEM. Established 1917.

Number of Teachers, 31,740. Contributory.

Laws

Sess. Laws 1905, ch. 186, sec. 6, April 22.

Permissive for 1st class districts; reprint. in N. Ed. Assn. p. 314.

1907, ch. 169, May 23.

Permissive for 2d class and 3d class districts.

1911, ch. 191, Art. XXIV, May 18.

Permissive for any district reprint. in Sch. L. 1911. Art. XXIV, p. 114; in N. Ed. Assn. p. 317.

1917 (setablishing a state-wide system).

Descriptions

Carn. Found. 1915, p. 47-48. (Describes and criticises bill 1915.)

Comm. Ed. 1907, v. 1, p. 451-456.

Describes law 1909 and pens. bill of teachers' assn.

Herrick, Cheesman A. Teachers' Retirement Fund. *In* Penn. School Jo. 1911, p. 305-8.

Jones, Adison L. Need of retirement fund for teachers. *In* Penn. School Jo. May 1908, p. 529-532.

Analyzed in comparative charts: (1911) VII, VIII.

For a history and criticism of this fund, see p. 265.

ALTOONA TEACHERS' RETIREMENT FUND. Established 1913.

Number of Teachers, 260. Contributory.

Laws: See under Pennsylvania, Law 1911.

CHESTER TEACHERS' RETIREMENT FUND. Established 1913.

Number of Teachers, 189. Contributory.

Laws and reports

Manual of Public Schools of Chester, Pa. 1915-16, p. 129-132, 13, 15. Text of law and by-laws; financial report.

ERIE TEACHERS' RETIREMENT SYSTEM, under approval of the Bd. in 1916.

Number of Teachers, 365. Contributory.

Laws

Rules of the Teachers' Retirement System of Erie, June 1916. Galley proof.

[1]Employees included teachers and other employees.

Harrisburg Teachers' Retirement Fund. Established 1908.

Number of Teachers, 335. Contributory.

Laws

Retirem. Fund Plan and By-Laws. 1908, 10 p.

Descriptions

Comm. Ed. 1909, v. 1, p. 119. (Brief description).

Analyzed in comparative charts: III, IV, IX.

Lancaster Teachers' Retirement Fund Association. Established 1914.

Number of Teachers, 171. Contributory.

Laws

By-Laws and Retirement Fund Plan. 1912, 11-p. booklet. Contains also amendments.

Philadelphia Teachers' Retirement Fund. Established 1907.

Number of Teachers, 5,895. Contributory.

Laws

Retirement Plan and By-Laws. 1st District of Pennsylvania. 1907, 16 p.

Laws and By-Laws. *In* Retirement Board, 9th annual report, 1915.

Reports and statistics

Retirement Board. Annual report for the years 1915 and 1916, 30 p. Contains a description of the benefits, development and condition of the fund; statistical and graphic charts showing the increase of expenditures.

—Actuary's report on the condition of the fund June, 1918. 51 p. (estimate of assets and liabilities, and rates of contributions required on a solvent basis).

—Series of Questions and Answers. November, 1918. 28 p. (a discussion of changes necessary to insure the solvency of the systems).

Descriptions

Comm. Ed. 1894-95, v. 1, p. 1086-92.

Report of the T. Annuity Aid Assn. (private fund) est. in 1890; its constitution and amendments.

Analyzed in comparative charts III, IV, VIII, IX.

For a history and criticism of this fund, see p. 203.

PITTSBURGH TEACHERS' RETIREMENT ASSOCIATION.[1] Established 1912.

Number of Teachers, 2,405. Non-contributory.

Descriptions

Board of Educ. of Pittsburgh. 1st annual report 1912, p. 142-44. Briefly describes pens. system; justifies it on the ground of underpaid work.

Analyzed in comparative charts III, IV, IX.

For a history and criticism of this association, see p. 166.

READING TEACHERS' RETIREMENT FUND. Established 1913.

Number of Teachers, 389. Contributory .

Laws

Rules and Regulations of the Teachers' Retirement Fund. School District of Reading, 4 p.

Reports and statistics

Teachers' Retirement Board of Reading. 1st and 2nd annual reports 1914-1915. Two 10-page pamphlets. Receipts and disbursements; annuity list; the report claims that "the fund is in sound condition."

SCRANTON TEACHERS' RETIREMENT FUND. Established 1911.

Number of Teachers, 664. Contributory.

Laws

Retirement Plan and By-Laws. Scranton, Pa. 1912, 8 p.

Analyzed in comparative charts: IX.

WILKES-BARRE TEACHERS' RETIREMENT FUND. Established 1910.

Number of Teachers, 314. Contributory.

Laws

Retirement Law and By-Laws. *In* Report of the Public Schools of the Wilkes-Barre City School District, 1915, p. 48-52.

RHODE ISLAND

RHODE ISLAND TEACHERS' PENSION SYSTEM. Established 1907.

[1] A bill for a contributory pension system for the teachers of Pittsburgh is now under consideration of the legislature. The basis of the proposed system is as follows: Contributions by teachers 1 per cent. to 3 per cent. sal. total contributions max. $1,500. City contributions min. 1½ of the teachers' contributions or as much as is necessary to pay pensions. Pensions after 30 years' service on superintendent's recommendation, after 40 years automatically (min. 15 years in city), or after 20 years on disability. Amount $600 after 40 years, $500 after 30 years, proportionately less below 30 years. Refund all own contributions at dismissal; no refund at resignation or upon death (see Carnegie Report, 1915).

Number of Teachers, 2,773. Non-contributory.

Laws

Acts and Res. 1907, ch. 1468, Apr. 23.

Establ. state-wide system; reprint. in Com. Ed. 1907, p. 450; in Bur. Ed. Bull., p. 164.

1909, ch. 401, Apr. 29, amendm.

Age requirement repealed, reprint, in School Laws 1910. p. 27 and 94; in N. Ed. Assn. p. 317.

1914, ch. 1090, May 6 (adding disability provision).

1915, ch. 1214, Apr. 22. (No material changes.)

Reports and statistics

Statement of Teachers' Pensions for Quarter, ended Dec. 31, 1915. 1 page typewritten leaflet.

Number of pensions, average pension, total expenditure, etc.

Descriptions

Comm. Ed. 1909, v. 1, p. 119. (Describes amendm. 1909.)

Carn. Found. 1912, p. 27.

Describes act 1907; disbursements.

Analyzed in comparative charts: III-VI, VII (1910); IX (1914).

BRISTOL TEACHERS' RETIREMENT FUND. Established 1914.

Number of Teachers, 52.[1] Contributory.

Laws

Gen. Assembly Acts 1914, April 13.

Establ. Retirement Fund in Bristol, reprinted by the Bd. of Ed. of Bristol, 3 mimeogr. pages.

NEWPORT TEACHERS' RETIREMENT FUND. Established 1898.

Number of Teachers, 155.[1] Contributory.

Laws

1898, May 6. *In* the R. I. Supt. of Schools, Report 1912 (?) p. 85-86 (incorporating the fund).

Reports and statistics

Teachers' Retirement Fund. *In* R. I. Supt. of Schools Report 1912 (?) p. 81-85.

Report on the receipts and disbursements; benefits reduced from ½ to ¼ sal.

PROVIDENCE TEACHERS' RETIREMENT FUND.[1] Established 1897.

[1]The teachers of Bristol, Newport and Providence are also covered by provisions of the Rhode Island systems.

Number of Teachers, 1,082. Contributory.

Laws

Pub. Sess. Acts. 1897, ch. 485, May 21.

Establ. Retir. Fund in Providence.

Reports and statistics

The Publ. School Teachers Retirement Fund in Providence. Extract from report of R. J. Condon. 1910, 11-p. pamphlet.

Describing the development of the fund, its unsatisfactory financial condition and the prorating of pensions.

Analyzed in comparative charts: IV, VII-IX.

SOUTH CAROLINA

Laws: See under Charleston.

CHARLESTON TEACHERS' RETIREMENT FUND. Established 1898.

Number of Teachers, 157. Non-contributory.

Laws

Acts 1898, No. 544, Jan. 29.

Permissive for Charleston to establish a retirement fund.

Descriptions

Comm. Ed. 1898-99, v. 2, p. 1480 (describing law 1898). 1903-04, v. 2, p. 2285 (brief note).

Analyzed in comparative charts: III, IV, VII-IX.

UTAH

UTAH TEACHERS' RETIREMENT FUND. Established 1913.

Number of Teachers, 2,511. Contributory.

Laws

Sess. Laws 1907, ch. 11, Mar. 14.

Permissive for cities of 1st and 2nd cl. or any country to establish pens. assn.; reprint. in Sch. Laws, 1911, p. 113; in Bur. Ed. Bull. p. 165-67; in N. Ed. Assn., p. 317-320.

1913, ch. 91, Mar. 20.

Establ. a state fund consisting of a current and a permanent fund, which any city or district may join if the majority of teachers favor it; amending the pens. law regarding 1st class cities.

Descriptions

Carn. Found. 1912, p. 36 (describes law 1907).

1914, p. 32 (describes law 1913).

Analyzed in comparative charts: IV, VII (1907); VIII, IX (1913).

SALT LAKE CITY TEACHERS' RETIREMENT FUND. Established 1909.

Number of Teachers, 694. Contributory.

Laws: See under Utah; laws 1907 and 1913.

Analyzed in comparative charts: III, IV, IX.

VERMONT

VERMONT TEACHERS' RETIREMENT FUND ASSOCIATION. Established 1913.[1]

Number of Teachers, 2,992. Contributory.

Laws

Sess. Laws 1910, No. 66, Jan. 26.

Permissive for any town or district to pay pension, repr. in N. Ed. Assn., p. 320.

1912, No. 70, Jan. 29.

Establ. a state-wide system.

Descriptions

Comm. Ed. 1911, v. 1, p. 98 (describes law 1910).

Carn. Found., 1914, p. 32 (describes law 1912).

Reports and statistics

Vermont Teachers' Retirement Fund Association, 2-p. leaflet. 1916. Appeal to the teachers to raise money for the fund.

Carnegie Found. Bulletin 12, 1918. p. 30-35. Suggested System of Retirement Allowances (outline of the proposed plan, its theory and statistical basis).

Analyzed in comparative charts: IV, IX.

VIRGINIA

VIRGINIA RETIRED TEACHERS' FUND. Established 1908.

Number of Teachers, 13,120. Contributory.

Laws

Sess. Acts 1908, ch. 313, Mar. 14.

State-wide, reprint. in Bd. Ed. Bull. p. 167-169.

1910, ch. 97, Mar. 9 (amending law 1908).

1912, ch. 329, Mar. 15.

[1]See Chapter XVIII and Appendix 3 (g) regarding a new law enacted in April, 1919.

Supplem. L. re disability and reentering the service; reprint. in N. Ed. Assn., p. 320-324.
State Bd. of Educ., Teachers' Retir. Fund, 7 p.
Acts 1908, 1910, 1912.

Reports and statistics

Binford, J. H. Some facts concerning the retired teachers' fund; an article in the Virginia Journal of Education, June 1911, p. 593-95.
Receipts and disbursements, July 1914-15, 1 mimeogr. page.

Descriptions

Comm. Ed. 1908, v. 1, p. 104 (describes L. 1908).
1909, v. 1, p. 119 (explanatory note).
1912, v. 1, p. 66 (describes amend. 1912).
Carn. Found. 1912, p. 26 (describes fund's condition).

Analyzed in comparative charts: III, IV, VI-IX.

For a history and criticism of this fund, see p. 198.

WASHINGTON

Senate Bill, 131, ch. 48, acts 1913 (defeated).

Descriptions

Carn. Found. 1914, p. 33.
Describes defeated pens. bill.

Analyzed in comparative charts: VIII (Pens. bill).

WISCONSIN

WISCONSIN TEACHERS' INSURANCE AND RETIREMENT FUND. Established 1911.

Number of Teachers, 14,597. Contributory.

Laws

For laws prior to 1911, see under Milwaukee.
Sess. Laws, 1911, ch. 323, June 10.
State-wide, repr. in N. Ed. Assn., p. 324-328.
1911, ch. 664, amendment.
Rules and Regulations, Law 1915, 16-p. booklet.

Reports and statistics

Statement of the Teachers' Insur. and Retir. Fund.
5-p. mimeographed copy (Receipts and disbursements for the years 1912-1915).
Reports of the Secretary of the Bd. of Trustees, 1914, 5-p. mimeographed copies (membership, pension roll, average annuities, etc.)

Descriptions

Carn. Found. 1912, p. 27. (Describes law 1911.)

Borden, J. B., The problem of teachers' pensions in Wisconsin. *In* Wisc. Jo. of Educ. Feb and Mar. 1911, p. 35-37, 64-66.

Comm. Ed. 1907, v. 1, p. 451 (describes law 1907). 1911, v. 1, p. 97 (describes law 1911).

Herfurth, Elizabeth M. The teachers' fund movement. *In* Wisc. Teachers' Assn. Proceedings 1909, 1910, p. 204-17.

Analyzed in comparative charts III, VII-IX. See also under Milwaukee.

For a history and criticism of this fund, see p. 193.

MILWAUKEE TEACHERS' RETIREMENT FUND. Established 1907.

Number of Teachers, 1,691. Contributory.

Laws

Sess. Laws 1907, ch. 111, Mar. 14, creating sec. 925-XX of the statute.

Establ. in pension fund, in Milwaukee; reprint. in Bur. Ed. Bull. p. 169-71.

1909, ch. 510, June 16.

Abolishing city's contribution of 1 per cent of school tax; substituting new law for the old law.

Sess. Laws 1911, ch. 189, May 25 amending L. 1909. Authorizing a city contribution of 1 per cent of school tax, max. amount equal to teachers' contributions.

Descriptions

Comm. Ed. 1907, v. 1, p. 451.

Describes law 1907; question of compulsion. 1909, v. 1, p. 120 (describes law 1909).

Analyzed in comparative charts: IV, VII (1909); VIII, IX (1911).

Reports and statistics

Law 1909-1911. Retirement fund in cities of 1st class. (A two-page leaflet.)

Secretary of the Board of Trustees. Report for the year 1915.

Five-page mimeographed copy.

Membership, pension roll, average annuity, etc.

WYOMING

Descriptions

Carn. Found. 1914, p. 34.

Agitation for pens. legislation.

APPENDIX 3

LAWS PROVIDING FOR SOUND TEACHERS' PENSION SYSTEMS

(a) Massachusetts

Acts of 1913, Chapter 832.—An Act to Establish a Retirement System for Public School Teachers

CONSTRUCTION

Section 1. The following words and phrases as used in this act, unless a different meaning is plainly required by the context, shall have the following meanings:

(1) "Retirement system" shall mean the arrangement provided in this act for payment of annuities and pensions to teachers.

(2) "Annuities" shall mean payments for life derived from contributions from teachers. "Annuities-certain" shall mean payments for a definite number of years only, derived from contributions from teachers, and the number of years during which the payments shall be made shall be determined by the retirement board. (*As amended by chapter 233, General Acts of 1917.*)

(3) "Pensions" shall mean payments for life derived from contributions from the commonwealth.

(4) "Teacher" shall mean any teacher, principal, supervisor or superintendent employed by a school committee, or board of trustees, in a public day school within the commonwealth.

(5) "Public school" shall mean any day school conducted within this commonwealth under the order and superintendence of a duly elected school committee and also any day school conducted under the provisions of chapter four hundred and seventy-one of the acts of the year nineteen hundred and eleven.

(6) "Regular interest" shall mean interest at the rate determined by the retirement board and shall be substantially that which is actually earned, which shall be compounded annually on the last day of December of each year. (*As amended by chapter 257, General Acts of 1916.*)

(7) "Retirement board" shall mean the teachers' retirement board, as provided in section four of this act.

(8) "Retirement association" shall mean the teachers' retirement association, as provided in section three of this act.

(9) "Expense fund" shall mean the fund provided for in paragraph numbered one in section five of this act.

(10) "Annuity fund" shall mean the fund provided for in paragraph numbered two in section five of this act.

(11) "Pension fund" shall mean the fund provided for in paragraph numbered three in section five of this act.

(12) "School year" shall mean the twelves months from the first day of July of any year to the thirtieth day of June next succeeding.

(13) "Assessments" shall mean the annual payments to the annuity fund by members of the association.

ESTABLISHMENT OF A TEACHERS' RETIREMENT SYSTEM.

Section 2. A teachers' retirement system shall be established on the first day of July, nineteen hundred and fourteen.

TEACHERS' RETIREMENT ASSOCIATION

Section 3. A teachers' retirement association shall be organized among the teachers in the public schools as follows:

(1) All teachers, except those specified in paragraph (3) of this section, who enter the service of the public schools for the first time on or before July first, nineteen hundred and fourteen, shall become thereby members of the association.

(2) All teachers, except those specified in paragraph (3) of this section, who shall have entered the service of the public schools before June thirtieth, nineteen hundred and fourteen, may at any time between July first, nineteen hundred and fourteen, and September thirtieth, nineteen hundred and fourteen, upon application in writing to the commissioner of education, become members of the retirement association. Any teacher failing to do so may thereafter become a member of the retirement board by paying an amount equal to the total assessments, together with regular interest thereon, that he would have paid if he had joined the retirement association on September thirtieth, nineteen hundred and fourteen.

(3) Teachers in the service of the public schools of the city of Boston shall not be included as members of the retirement association.[1]

STATE TEACHERS' RETIREMENT BOARD

Section 4. (1) The management of the retirement system is hereby vested in the teachers' retirement board, consisting of seven members: the insurance commissioner for the commonwealth, the bank commissioner for the commonwealth, the commissioner of education for the commonwealth, three members of the retirement association and one other person. Upon organization of the retirement association the members thereof shall elect from among their number in a manner to be approved by the insurance commissioner, the bank commissioner and the commissioner of education, three persons to serve upon the retirement board, one member to serve for one year, one for two years and one for three years, and thereafter the members of the retirement association shall elect annually from among their number in a manner to be approved by the retirement board one person to serve upon the retirement board for the term of three years. The seventh member of the reitrement board shall be elected annually by the other six to serve for the term of one year. On a vacancy occurring on the board, a successor of such person whose place has become vacant shall be chosen in the same manner as his predecessor to serve until the next annual election. Until the organization of the retirement association and the election of three representatives therefrom, the insurance commissioner, the bank commissioner and the commissioner of education shall be empowered to perform the duties of the retirement board.

(2) The members of the retirement board shall serve without compensation, but they shall be reimbursed from the expense fund of the retirement association for any expenditures or loss of salary or wages which they may incur through serving on the board. All claims for

[1]Modified for industrial and continuation school teachers, by chapter 494, Acts of 1914.

reimbursement on this account shall be subject to the approval of the governor and council.

(3) The retirement board shall have power to make by-laws and regulations not inconsistent with the provisions of this act; and to employ a secretary who shall give a bond in such amount as the board shall approve and clerical and other assistance as may be necessary. The salaries shall be fixed by the board, with the approavl of the governor and council.

(4) The retirement board shall provide for the payment of retirement allowances and such other expenditures as are required by the provisions of this act.

(5) The retirement board shall adopt for the retirement system one or more mortality tables, and shall determine what rates of interest shall be established in connection with such tables, and may later modify such tables or prescribe other tables to represent more accurately the expense of the retirement system or may change such rates of interest, and may determine the application of the changes made.

(6) The retirement board shall perform such other functions as are required for the execution of the provisions of this act.

CREATION OF FUNDS

Section 5. The funds of the retirement system shall consist of an expense fund, an annuity fund and a pension fund.

(1) The expense fund shall consist of such amounts as shall be appropriated by the general court from year to year on estimates submitted by the retirement board to defray the expense of the administration of this act, exclusive of the payment of retirement allowances.

(2) The annuity fund shall consist of assessments paid by members of the retirement association, and interest derived from investments of the annuity fund. Each member of the retirement association shall pay into the annuity fund, by deduction from his salary in the manner provided in section nine, paragraph five, of this act, such assessments upon his salary as may be determined by the retirement board. The rate of assessment shall be established by the retirement board on the first day of July of each year after a prior notice of at least three months, and shall at any given time be uniform for all members of the retirement association, and shall not be less than three per cent nor more than seven per cent of the member's salary: *provided, however,* that when the total sum of assessments on the salary of any member at the rate established by the retirement board would amount to more than one hundred dollars or less than thirty-five dollars for any school year, such member shall in lieu of assessments at the regular rate be assessed one hundred dollars a year or thirty-five dollars a year as the case may be, payable in equal instalments to be assessed for the number of months during which the schools of the community in which such member is employed are commonly in session. Any member of the retirement association who shall for thirty years have paid regular assessments to the annuity fund as provided herein, shall be exempt from further assessments; but such member may thereafter, if he so elects, continue to pay his assessments to the fund. No member so electing shall pay further assessments after the total sum of assessments paid by him shall at any time have amounted, with regular interest, to a sum sufficient to purchase an annuity of five hundred dollars at age sixty; and interest thereafter accruing shall be paid to the member at the time of his retirement.

(3) The pension fund shall consist of such amounts as shall be appropriated by the general court from time to time on estimates sub-

mitted by the retirement board for the purpose of paying the pensions provided for in this act.

(4) [1]Members of the retirement association,[2] established by chapter five hundred and thirty-two of the acts of the year nineteen hundred and eleven, as amended, who enter the service of the public schools shall have the full amount of their contributions, together with such interest as shall have been earned thereon, transferred by the treasurer of the commonwealth to the annuity fund established by paragraph (2) of this section, and these amounts shall thereby become a part of their assessments.

PAYMENT OF RETIREMENT ALLOWANCES

Section 6 (1) Any member of the retirement association may retire from service in the public schools on attaining the age of sixty years, or at any time thereafter, if incapable of rendering satisfactory service as a teacher, may, with the approval of the retirement board, be retired by the employing school committee.

(2) Any member of the retirement association, on attaining the age of seventy years, shall be retired from service in the public schools.

(3) A member of the retirement association after his retirement under the provisions of paragraphs numbered (1) or (2) of this section, shall be entitled to receive from the annuity fund, as he shall elect at the time of his retirement, on the basis of tables adopted by the retirement board:—(*a*) an annuity, payable in quarterly payments, to which the sum of his assessments under section five, paragraph (2), with regular interest thereon, shall entitle him; or, (*b*) an annuity of less amount, as determined by the retirement board for the annuitants electing such option, payable in quarterly payments, with the provision that if the annuitant dies before receiving payments equal to the sum of his assessments under section five, paragraph (2), with regular interest, at the time of his retirement, the difference between the total amount of said payments and the amount of his contributions with regular interest shall be paid to his legal representatives.

(4) Any member of the retirement association receiving payments of an annuity as provided in paragraph numbered (3) of this section shall, if not rendered ineligible therefor by the provisions of section twelve of this act, receive with each quarterly payment of his annuity an equal amount to be paid from the pension fund as directed by the retirement board.

(5) Any teacher who shall have become a member of the retirement association under the provisions of paragraph numbered (2) of section three, and who shall have served fifteen years or more in the public schools of the commonwealth, not less than five of which shall immediately precede retirement, shall, on retiring as provided in paragraphs (1) and (2) of this section, be entitled to receive a retirement allowance as follows: (*a*) such annuity and pension as may be due under the provisions of paragraphs numbered (3) and (4) of this section; (*b*) an additional pension to such an amount that the sum of this additional pension and the pension provided in paragraph (4) of this section shall equal the pension to which he would have been entitled under the provisions of this act if he had paid thirty assessments on his average yearly wage for the fifteen years preceding his retirement and at the rate in effect at the time of his retirement: *provided,* (1) that if his term of service in the commonwealth shall have been over thirty years the thirty assessments shall be reckoned as having begun at the time of his

[1]As amended by chapter 197, General Acts of 1915.

[2]The Retirement System established for State employees.

entering service and as drawing three per cent interest compounded annually until the time of retirement; and *further provided,* (2) that if the sum of such additional pension together with the annuity and pension provided for by paragraphs numbered (3) and (4) of this section is less than three hundred dollars in any one year, an additional sum sufficient to make an annual retirement allowance of three hundred dollars shall be paid from the pension fund. (*As amended by chapter* 257, *General Acts of* 1916.)

(6) If at any time it is impossible or impracticable to consult the original records as to wages received by a member during any period, the retirement board shall determine the pension to be paid under paragraph numbered (5) (b) of this section in accordance with the evidence they may be able to obtain.

(7) [1]In determining the retiring allowance of a member of the teachers' retirement association who prior to the first day of June, nineteen hundred and twelve, had been regularly employed by the commonwealth, credit shall be given in the manner provided for by paragraph (5) of this section, for all such periods of employment rendered prior to the first day of June, nineteen hundred and twelve: *provided, however,* that this paragraph shall not apply to any person becoming a member of the teachers' retirement association, after the first day of July, nineteen hundred and fifteen, who, at the time of entering the service of the public schools, was not a member of the retirement association established by chapter five hundred and thirty-two of the acts of the year nineteen hundred and eleven.

(8) Any member of the retirement association who has served twenty or more years in the public schools of the commonwealth and who, before attaining the age of sixty, by reason of physical or mental disability, becomes permanently incapable of rendering satisfactory service as a teacher, may, with the approval of the retirement board, be retired by the employing school committee: *provided,* that he has served in the public schools of the commonwealth for the five consecutive years immediately preceding the date of his retirement. Periods of leave of absence or sickness shall not be considered as breaking the continuity of the five consecutive years of service required by the provisions of this paragraph, but such periods of absence or sickness shall not be counted as service. (*Added by chapter* 233, *General Acts of* 1917.)

(9) Any member of the retirement association shall, upon retirement under the provisions of paragraph (8) of this section, and during the continuance of disability, be entitled to receive from the annuity fund, in quarterly payments, a sum computed in accordance with the provisions of paragraph (3) of this section: *provided,* that upon the approval of the retirement board, an annuity-certain based upon the tables of the board may be substituted for either of the plans provided for in said paragraph, and in case of the death of the annuitant before all the instalments-certain have been paid, the value at that time of the unpaid instalments, as determined on the basis of the tables adopted by the retirement board, shall be paid to the legal representatives of the deceased member's estate; and *further provided,* that if no executor or administrator of the estate of such deceased member is appointed within three months after his death, all sums due under this paragraph, not exceeding one hundred dollars in any one case, may be paid to such person or persons as appear in the judgment of the retirement board to be entitled to the proceeds of the estate, and such payment shall be a bar to recovery by any other person. (*Added by chapter* 233, *General Acts of* 1917.)

(10) Any member of the retirement association receiving a payment

[1]As amended by chapter 197, General Acts of 1915.

as provided in paragraph (9) of this section, shall, if not rendered ineligible therefor by the provisions of section twelve of this act, be entitled to receive from the pension fund for each year of service a pension equal to one-thirtieth of the pension which would have been due him under the provisions of this act if he had retired at the age of sixty, having paid thirty annual assessments to the annuity fund, and received an annuity computed in accordance with the provisions of paragraph (3), option (a) of this section; *provided, howveer,* that the minimum annual amount to be paid from the pension fund shall be such that a member shall receive from this fund, for each year of his service, one-thirtieth of two hundred and fifty dollars; and *further provided,* that the total retiring allowance shall in no case be greater than the amount which the said member would receive if he were to continue in service until the age of sixty, contributing annual assessments based on the average salary received during the five years of service immediately preceding retirement, at the rate of assessment in effect at the time of retirement. (*Added by chapter* 233, *General Acts of* 1917.)

(11) If a member is granted an annuity-certain by the retirement board, his total retiring allowance shall not be limited to the total retiring allowance which he would have received at the age of sixty, as provided in paragraph (10) of this section, but the amount to be paid from the pension fund shall be the amount which would have been paid from that fund if an annuity-certain had not been granted. (*Added by chapter* 233, *General Acts of* 1917.)

(12) In computing the amount to be paid from the pension fund under the provisions of paragraph (10) of this section, the assumed assessments necessary to complete the thirty annual assessments shall be based on the average salary received during the five years of service immediately preceding retirement, and shall be at the rate of assessment in effect at the time of retirement. Interest on the amount to the member's credit at the time of retirement and on the assumed assessments shall be figured at the rate of three per cent. (*Added by chapter* 233, *General Acts of* 1917.)

(13) No member of the retirement association shall be retired under the provisions of paragraph (8) of this section until the fact of his disability has been certified to under oath by an examining physician selected by the employing school committee and approved by the retirement board, and until any further evidence of his disability which the retirement board may require shall have been furnished. (*Added by chapter* 233, *General Acts of* 1917.)

(14) At intervals of not less than one year, any member of the retirement association receiving a retiring allowance under the provisions of this section, who has not attained the age of sixty, shall, if so requested by the retirement board, be re-examined by a physician selected by the retirement board. If the retirement board finds that disability which prevents satisfactory service as a teacher no longer exists, the retiring allowance shall cease. Refusal to submit to re-examination shall be cause for discontinuing the retiring allowance. (*Added by chapter* 233, *General Acts* of 1917.)

(15) If a teacher ceases to receive a retiring allowance under the provisions of paragraph (14) of this section, the amount of his credit at that time in the annuity fund shall be determined on the basis of tables adopted by the retirement board, and the said amount shall be considered for the purposes of this act to constitute the sum of his assessments, with the regular interest allowed thereon, to the time when his retiring allowance ceased. (*Added by chapter* 233, *General Acts of* 1917.

(16) Any member of the retirement association who shall cease to

receive a retiring allowance under the provisions of paragraph (14) of this section, who does not reenter the service of the public schools, and who does not withdraw the amount to his credit in the annuity fund, may, upon attaining the age of sixty, receive a retiring allowance computed in accordance with the provisions of paragraphs (3) and (4) of this section, or may before attaining the age of sixty, under conditions to be determined by the retirement board, upon request and after an interval of one year, be entitled to further re-examination by a physician selected by the retirement board, and if disability contracted during service as a public school teacher is found to exist, shall again be entitled to receive a retiring allowance under the provisions of paragraphs (9) and (10) of this section. (*Added by chapter* 233, *General Acts of* 1917.)

WITHDRAWAL AND REINSTATEMENT

Section 7.[1] (1) Any member of the retirement association withdrawing from service in the public schools, except for the purpose of entering the service of the commonwealth, before becoming eligible to retirement shall be entitled to receive from the annuity fund all amounts contributed as assessments, together with regular interest thereon, in the manner hereinafter provided.

(2) If such withdrawal shall take place before six annual assessments have been paid, the total amount to which such member is entitled as determined by the retirement board under the provisions of this act may be paid to him in one sum. (*As amended by chapter* 60, *General Acts of* 1916.)

(3) If such withdrawal shall take place after six annual assessments have been paid the amount so refunded shall be in the form of such annuity for life based on the contributions of such member, together with regular interest thereon, as may be determined by the retirement board according to its annuity tables, or in four annual instalments, as such member may elect. (*As amended by chapter* 60, *General Acts of* 1916.)

(4) If a member of the association withdrawing and receiving payments in accordance with paragraphs numbered (2) and (3) of this section, shall die before the amount of such payments equals the amount of his contributions to the annuity fund with regular interest, the difference between the amount of such payments and the amount of his contributions with regular interest shall be paid to his legal representatives.

(5) Any member of the retirement association who shall have withdrawn from service in the public schools shall, on being re-employed in the public schools, be reinstated in the retirement association in accordance with such plans for reinstatement as the retirement board shall adopt.

(6) If a member of the retirement association shall die before retirement, the full amount of his contributions to the annuity fund with regular interest to the day of his death shall be paid to his legal representatives; if, however, there is no executor or administrator of the estate of such deceased member, all sums due under this paragraph, not exceeding one hundred dollars in any one case, may be paid to such person or persons as appear in the judgment of the retirement board to be entitled to the proceeds of the estate, and such payment shall be a bar to recovery by any other person. (*As amended by chapter* 238, *General Acts of* 1916.)

TAXATION, ATTACHMENTS AND ASSIGNMENTS

Section 8. That portion of the salary or wages of a member deducted or to be deducted under this act, the right of a member to an annuity or

[1]As amended by chapter 198, General Acts of 1915.

pension, and all his rights in the funds of the retirement sysetm shall be exempt from taxation, and from the operation of any laws relating to bankruptcy or insolvency, and shall not be attached or taken upon execution or other process of any court. No assignment of any right in, or to, said funds shall be valid. The funds of the retirement system, so far as invested in personal property, shall be exempt from taxation.[1]

DUTIES OF THE SCHOOL COMMITTEE

Section 9. (1) The school committee of each town and city in the commonwealth shall, before employing in any teaching position any person to whom this act may apply, notify such person of his duties and obligations under this act as a condition of his employment.

(2) On or before October first of each year the school committee of each town and city in the commonwealth shall certify to the retirement board the names of all teachers to whom this act shall apply.

(3) The school committee of each town and city in the commonwealth shall, on the first day of each calendar month, notify the retirement board of the employment of new teachers, removals, withdrawals, changes in salary of teachers, that shall have occurred during the month preceding.

(4) Under the direction of the retirement board the school committee of each town or city in the commonwealth shall furnish such other information as the board may require relevant to the discharge of the duties of the board.

(5) The school committee of each town and city in the commonwealth shall, as directed by the retirement board, deduct from the amount of the salary due each teacher employed in the public schools of such city or town such amounts as are due as contributions to the annuity fund as prescribed in this act, shall send to the treasurer of said town or city a statement as voucher for such deductions, and shall send a duplicate statement to the secretary of the retirement board.

(6) The school committee of each town and city in the commonwealth shall keep such records as the retirement board may require.

DUTIES OF BOARDS OF TRUSTEES

Section 10. In administering this act for the benefit of teachers in schools conducted in accordance with chapter four hundred and seventy-one of the acts of the year nineteen hundred and eleven, the boards of trustees of said schools are hereby authorized and required to perform all the duties prescribed for school committees under this act.

CUSTODY AND INVESTMENT OF FUNDS

Section 11. (1) The treasurer of each town or city in the commonwealth on receipt from the school committee or board of trustees of the

[1]Any pledge, mortgage, sale, assignment, or transfer hereafter made of any right, claim, or interest in any pension which has been, or may hereafter be granted by the commonwealth or by any county, city or town, shall be void and of no effect, and any person who shall be a party to such pledge, mortgage, sale, assignment or transfer of any right, claim, or interest in any pension, or pension certificate, which has been or may hereafter be granted or issued by the commonwealth or by any county, city or town, or who shall hold the same as collateral security for any debt or promise, or upon any pretext of such security or promise, shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding one hundred dollars. (*Chapter* 75, *General Acts of* 1916.)

voucher for deductions from the teachers' salaries provided for in section nine shall transmit, monthly, the amounts specified in such voucher to the secretary of the retirement board.

(2) The secretary of the retirement board shall monthly pay to the treasurer of the commonwealth all sums collected by him under the provisions of paragraph (1).

(3) All funds of the retirement system shall be in custody and charge of the treasurer of the commonwealth and the treasurer shall invest such funds as are not required for current disbursements in accordance with the laws of the commonwealth governing the investment of sinking funds. He may, whenever he sells securities, deliver the securities so sold upon receiving the proceeds thereof, and may execute any or all documents necessary to transfer the title thereto.

(4) The treasurer of the commonwealth shall make such payments to members of the retirement association from the annuity fund and pension fund as the retirement board shall order to be paid in accordance with sections six and seven of this act.

(5) On, or before, the third Wednesday in January, the treasurer of the commonwealth shall file with the insurance commissioner for the commonwealth, and with the secretary of the retirement board, a sworn statement exhibiting the financial condition of the retirement system on the thirty-first day of the preceding December and its financial transactions for the year ending at such date. Such statement shall be in the form prescribed by the retirement board and approved by the insurance commissioner.

MEMBERSHIP IN OTHER RETIREMENT ASSOCIATIONS

Section 12. (1) No person required to become a member of the association under the provisions of paragraph (1) of section three of this act shall be entitled to participate in the benefits of any other teachers' retirement system, supported in whole or in part by funds raised by taxation, or to a pension under the provisions of chapter four hundred and ninety-eight of the acts of the year nineteen hundred and eight, or chapter five hundred and eighty-nine of the acts of the year nineteen hundred and eight, as amended by chapter six hundred and seventeen of the acts of the year nineteen hundred and ten.

(2) No member of the retirement association shall be eligible to receive any pension as described in section six of this act, who is at the time in receipt of a pension paid from funds raised in whole or in part from taxation under the provisions of chapter four hundred and ninety-eight of the acts of the year nineteen hundred and eight, or chapter five hundred and eighty-nine of the acts of the year nineteen hundred and eight, as amended by chapter six hundred and seventeen of the acts of the year nineteen hundred and ten, or of any other act providing pensions for teachers, providing that this paragraph shall not be construed as applying to the Boston Teachers' Retirement Fund Association.

REIMBURSEMENT OF CITIES AND TOWNS

Section 13. (1) Whenever, after the first day of July, nineteen hundred and fourteen, a town or city retires a teacher who is not eligible to a pension under the provisions of section six, paragraph (4) of this act, and pays to such teacher a pension in accordance with chapter four hundred and ninety-eight of the acts of the year nineteen hundred and eight, or chapter five hundred and eighty-nine of the acts of the year nineteen hundred and eight, as amended by chapter six hundred and seventeen of the acts of the year nineteen hundred and ten, and the

school committee of said town or city certifies under oath to the retirement board to the amount of said pension, said town or city shall be reimbursed therefor annually by the commonwealth: *provided,* that no such reimbursement shall be in excess of the amount, as determined by the retirement board, to which said teacher would have been entitled as a pension, had he become a member of the retirement association under the provisions of section three, paragraph (2) of this act.

(2) On or before the first Wednesday of January of each year, the retirement board shall present to the general court a statement of the amount expended previous to the preceding first day of July by cities and towns in the payment of pensions under the provisions of the preceding paragraph, for which such cities and towns should receive reimbursement. On the basis of such a statement, the general court may make an appropriation for the reimbursement of such cities and towns up to such first day of July.

JURISDICTION OF COURT

Section 14. The superior court shall have jurisdiction in equity upon petition of the insurance commissioner or of any interested party to compel the observance and restrain the violation of this act, and of the rules and regulations established by the retirement board hereunder.

REFERENDUM AND REPEAL

Section 15. Upon the petition of not less than five per cent of the legal voters of any city or town that has adopted chapter four hundred and ninety-eight of the acts of the year nineteen hundred and eight, this question shall be submitted, in case of a city, to the voters of such city at the next city election, and, in case of a town, to the voters of such town at the next annual town meeting, and the vote shall be in answer to the question to be placed upon the ballot: "Shall an act passed by the general court in the year nineteen hundred and eight, entitled, 'An Act to authorize cities and towns to establish pension funds for teachers in the public schools,' be repealed?" and if a majority of the voters voting thereon at such election or meeting shall vote in the affirmative said act shall be repealed in such city or town.

Section 16. So much of chapter four hundred and ninety-eight of the acts of the year nineteen hundred and eight as authorizes its submission to the voters of a city or town for acceptance after the passage of this act is hereby repealed.

Section 17. This act shall take effect upon its passage.

(b) City of New York

Laws of 1917, Chapter 303.—An Act to Amend the Greater New York Charter and to Repeal Sections Ten Hundred and Ninety-Two-a, Ten Hundred and Ninety-Two-b, and Ten Hundred and Ninety-Two-c thereof, in relation to Teachers' Retirement Fund

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section ten hundred and ninety-two of the Greater New York charter, as re-enacted by chapter four hundred and sixty-six of the laws of nineteen hundred and one, and amended by chapter five hundred and thirty of the laws of nineteen hundred and two, chapter one hundred and seventy-seven of the laws of nineteen hundred and three, chapter six hundred and sixty-one of the laws of nineteen hundred and five, chapter

one hundred and sixty-seven of the laws of nineteen hundred and seven and chapter four hundred and seventy-six of the laws of nineteen hundred and fourteen, is hereby amended to read as follows:

§ 1092. The following words and phrases as used in this act, unless a different meaning is plainly required by the context, shall have the following meanings:

(1) "Retirement system" shall mean the arrangement for the payment of retirement allowances, under the provisions of this act.

(2) "Retirement association" shall mean the teachers' retirement association provided for in subdivision B of this act.

(3) "Retirement board" shall mean the teachers' retirement board provided for in subdivision C of this act.

(4) "Medical board" shall mean the board of physicians provided for in subdivision T of this act.

(5) "Board of education" shall mean the board of education of the city of New York.

(6) "Public school" shall mean any class, school, high school, normal school, training school, vocational school, truant school, parental school, and all schools or classes conducted under the order and superintendence of the board of education, and the schools or classes maintained by the department of public charities or by the department of correction in pursuance of the rules established or to be established by the board of education, or by the commissioner of public charities or by the commissioner of correction for schools or classes maintained by such commissioners, respectively.

(7) "Teacher" shall mean the city superintendent of schools, the associate city superintendents, the district superintendents, the director and the assistant director of the division of reference and research, the director and the assistant directors of the bureau of compulsory education, school census and child welfare, the members of the board of examiners, the directors and the assistant directors of special branches, the supervisor and the assistant supervisors of lectures, all principals, vice-principals, assistants-to-principals, heads of departments, and all regular and special teachers of the public day schools of the city of New York, and all employees of the board of education appointed to regular positions in the service of the public schools at annual salaries and whose appointments were made or shall hereafter be made from eligible lists prepared as the result of examinations held by the board of examiners of the department of education.

(8) "Present-teacher" shall mean any teacher employed in the public schools as a teacher on the first day of August, nineteen hundred and seventeen, or on leave of absence on said date.

(9) "New-entrant" shall mean any teacher appointed to serve in the public schools after the first day of August, nineteen hundred and seventeen.

(10) "Contributor" shall mean any member of the retirement association.

(11) "Transferred-contributor" shall mean a contributor as defined in subdivision I of this act.

(12) "Beneficiary" shall mean any person in receipt of a pension, an annuity, a retirement allowance, or other benefit as provided in this act.

(13) "City-service" shall mean any service as an employee of the city of New York or of any department, bureau, board or corporation created under the provisions of the Greater New York charter, or as an employee of any of the municipalities, counties or parts thereof which are included within the boundaries of the city of New York or which have been incorporated into said city.

(14) "Prior-service" shall mean all city-service and all teaching or supervisory service in schools or colleges not maintained by the city of New York computed to and including the sixteenth day of September, nineteen hundred and seventeen, in the case of a present-teacher and in the case of a new-entrant to the date of his appointment as a teacher, subject to the limitations and restrictions imposed by subdivision H of this act.

(15) "Total-service" shall mean all prior-service together with all subsequent service as a teacher or contributor as provided in this act.

(16) "Service retirement" shall mean retirement as defined in subdivision K of this act.

(17) "Disability retirement" shall mean retirement as defined in subdivision L of this act.

(18) "Average salary" shall mean the average annual salary earnable by a contributor for the ten years immeditely preceding retirement except that in case a contributor shall retire prior to the first day of January, nineteen hundred and twenty-two, average salary shall mean the average annual salary earnable by the contributor since the first day of January, nineteen hundred and twelve.

(19) "Minimum contribution" shall mean (a) the amount realized by deducting from the salary of a contributor three per centum of his earnable salary or (b) such per centum thereof, if less than three per centum, as shall be computed to be sufficient, with regular interest, when paid until age sixty-five, to provide for him on retirement at that age an annuity which, when added to his pension provided for in this act, will provide a retirement allowance of fifty per centum of his average salary.

(20) "Minimum accumulation" shall mean the amount created by the accumulation of the minimum contributions, together with the regular interest thereon.

(21) "Accumulated deductions" shall mean the total of the amounts deducted from the salary of a contributor and standing to the credit of his individual account in the annuity savings fund, together with the regular interest thereon.

(22) "Regular interest" shall mean interest at four per centum per annum, compounded annually.

(23) "Pension" shall mean payments for life derived from appropriations made by the city of New York and from any other sources of revenue of the pension reserve funds as provided in this act.

(24) "Annuity" shall mean payments for life derived from contributions made by a contributor as provided in this act.

(25) "Retirement allowance" shall mean the pension plus the annuity.

(26) "Pension reserve" shall mean the present value computed on the basis of such mortality tables as shall be adopted by the retirement board, with regular interest, of the future payments to be made on account of any pension granted under the provisions of this act.

(27) "Annuity reserve" shall mean the present value computed on the basis of such mortality tables as shall be adopted by the retirement board, with regular interest, of the future payments to be made on account of any annuity or benefit granted and based on the accumulated deductions of the contributor.

(28) "Expense fund" shall mean the fund provided for in paragraph numbered one in subdivision F of this act.

(29) "Contingent reserve fund" shall mean the fund provided for in paragraph numbered two in subdivision F of this act.

(30) "Pension reserve fund number one" shall mean the fund provided for in paragraph numbered three in subdivision F of this act.

(31) "Pension reserve fund number two" shall mean the fund provided for in paragraph numbered four in subdivision F of this act.

(32) "Annuity savings fund" shall mean the fund provided for in paragraph numbered five in subdivision F of this act.

(33) "Annuity reserve fund" shall mean the fund provided for in paragraph numbered six in subdivision F of this act.

(34) "Fiscal year" shall mean the year commencing with January first and ending with December thirty-first next following.

A. The retirement system shall be established on the first day of August, nineteen hundred and seventeen.

B. A teachers' retirement association is hereby organized among the teachers of the public schools; its membership shall consist of the following:

1. All teachers who have been granted or shall hereafter be granted permanent licenses pursuant to section ten hundred and eighty-nine.

2. All teachers, without a permanent license, who shall file a statement in writing with the retirement board consenting to membership in the retirement association and to the deductions for annuity purposes prescribed in this act.

3. All transferred-contributors.

C. 1. A retirement board of seven members is hereby constituted which shall consist of the following:

(a) The president of the board of education.

(b) The comptroller of the city of New York.

(c) Two members appointed by the mayor of the city of New York, one of whom shall be a member of the board of education; they shall serve until their successors are appointed. Should the board-of-education member of the retirement board cease to be a member of the board of education he shall thereupon cease to be a member of the retirement board.

(d) Three members of the retirement association elected from the contributors as follows: On the first Thursday of May, nineteen hundred and seventeen, and in each year thereafter, the contributors in each public school shall meet in their respective schools at three o'clock in the afternoon, or if the administrative conditions in any school are such that the meeting ought to be held at some other hour, then at such hour in said school as shall be designated by the city superintendent of schools after consultation with the principal of said school; the principal of the school, and in his absence the acting principal, shall call the meeting to order, and the contributors present at the meeting shall proceed to elect from their number by ballot a chairman and a secretary, and shall then elect from their number by ballot one delegate for each ten contributors and major fraction thereof in said school; each school shall have at least one delegate. At the close of the meeting the secretary thereof shall transmit to the district superintendent in charge of the school the names of the delegates so elected. On the second Thursday of May, nineteen hundred and seventeen, and in each year thereafter, said delegates shall meet at three o'clock in the afternoon in one of the schools in the district designated by the district superintendent; said designation shall be made and mailed by the district superintendent to each delegate at least three days before the second Thursday of May. For the purpose of attending the meeting each delegate shall leave his school not later than two-thirty o'clock in the afternoon on said second Thursday of May. No delegate shall suffer loss of pay by reason of attendance at said meeting. Said delegates shall be called to order by the principal of the school, and in his absence by the acting principal of the school, in which the meeting is held. Two-thirds of the delegates

elected in a district shall constitute a quorum for that district. The delegates present at the meeting shall proceed to elect from their number by ballot a chairman and a secretary, and shall then elect from their number by ballot a representative and an alternate for said representative. Immediately after the meeting, the secretary thereof shall transmit to the secretary of the board of education the name of the representative and the name of the alternate so elected. The representatives shall meet at three o'clock in the afternoon of the third Thursday of May in each year at the hall of the board of education; for the purpose of attending said meeting, the representatives shall leave their respective schools at two o'clock in the afternoon on said third Thursday of May. No representative shall suffer loss of pay by reason of attendance at said meeting. Said meeting shall be called to order by the city superintendent of schools or, in his absence, by the acting city superintendent of schools; two-thirds of the said representatives shall constitute a quorum; said representatives shall elect from their number by ballot a chairman and a secretary, and shall then elect by ballot a contributor to serve as a member of the retirement board for three years. At the first meeting of the representatives after this act takes effect, said representatives shall elect by ballot three contributors to serve as members of the retirement board; the three so elected shall determine by lot their terms of office as one, two, and three years, respectively. Should a vacancy occur among the members of the retirement board elected by the representatives, said representatives shall meet within ten days thereafter at a special meeting at the call of the president of the board of education, and they shall proceed to elect by ballot a contributor to serve on said retirement board for the unexpired term. The proceedings at this special meeting shall be in all respects the same as the proceedings at the regular meeting held on the third Thursday of May. Should a vacancy occur among the representatives, or should any representative be unable to attend any meeting, his place shall be taken at said meeting by his alternate.

(e) For the purpose of voting for delegates on the first Thursday of May, nineteen hundred and seventeen, all teachers shall be considered to be contributors.

(f) For the purpose of voting for delegates, teachers and contributors, not appointed as regular teachers to any public school, shall be considered to be teachers regularly appointed to teach in such schools as the board of education by its by-laws shall prescribe.

2. The members of the retirement board shall serve as such without compensation but shall be reimbursed from the expense fund for any necessary expenditures and no contributor shall suffer loss of salary or wages through serving on the retirement board.

3. The retirement board shall elect from its membership a chairman, and shall appoint a secretary, an actuary, and such medical, clerical and other employees as may be necessary.

4. The compensation of all employees of the retirement board shall be fixed by said retirement board subject to the approval of the board of estimate and apportionment.

5. Subject to the limitations of this act and of law, the retirement board shall from time to time establish rules and regulations for the administration of the funds created by this act and for the transaction of its business.

6. The retirement board shall keep in convenient form such data as shall be necessary for actuarial valuation of the various funds created by this act.

7. In the years nineteen hundred and nineteen and nineteen hundred and twenty-two, and in every fifth year thereafter, the actuary of the

retirement board shall make an actuarial investigation into the mortality and service experience of the contributors and beneficiaries as defined in this act, and shall make a valuation of the various funds created by this act, and on the basis of such investigation and valuation the retirement board shall

(a) Adopt for the retirement system one or more mortality tables and such other tables as shall be deemed necessary.

(b) Certify the rates of deduction from salary necessary to pay the annuities authorized under the provisions of this act; and

(c) Certify the rates of contribution, expressed as a percentage of salary of new entrants at various ages, which shall be made by the city of New York to the contingent reserve fund.

8. Immediately after the passage of this act the actuary of the retirement board shall make such investigation of the mortality, service, and salary experience of the teachers as the retirement board shall authorize. On the basis of such investigation and upon the recommendation of the actuary the retirement board shall adopt such tables and certify such rates as are required in sub-sections a, b, and c of paragraph seven immediately preceding. On the basis of such tables the actuary of the retirement board shall as soon as practicable after the first day of August, nineteen hundred and seventeen, make a valuation of the various funds created by this act.

9. The retirement board shall publish annually a report certified to by each member showing the condition of the various funds created by this act, and setting forth such other facts, recommendations, and data, as may be of use in the advancement of knowledge concerning teachers' pensions and annuities; and said retirement board shall submit said report to the mayor of the city of New York and shall file at least fifty copies thereof with the board of education for the use of said board and of its members; and at least one copy in each school for the use of the teachers thereof. It shall also file one copy in the office of the city superintendent of schools, and of each associate city superintendent of schools, and of each district superintendent of schools.

10. Each member of the retirement board shall take an oath of office that he will, so far as it devolves upon him, diligently and honestly administer the affairs of said retirement board and that he will not knowingly violate or wilfully permit to be violated any of the provisions of law applicable to this act. Such oath shall be subscribed by the member making it, and certified by the officer before whom it is taken, and shall be immediately filed in the office of the clerk of the county of New York.

11. The concurrence of the comptroller or of one member appointed by the mayor, of a member elected by the retirement association, and of at least two other members shall be necessary for a decision of the retirement board.

12. The retirement board shall keep a record of all its proceedings open to public inspection.

13. The retirement board shall perform such other functions as are required for the execution of the provisions of this act.

D. For the purposes of this act, the retirement board shall possess the powers and privileges of a corporation, and as such may sue and be sued. The corporation counsel of the city of New York shall be the legal adviser of said retirement board.

E. The funds created by this act shall be managed as follows:

1. The members of the retirement board shall be the trustees of the several funds created by this act, and shall have exclusive control and management of said funds, and shall have full power to invest the same,

subject, however, to all the terms, conditions, limitations, and restrictions imposed by this act upon the making of investments and subject also to the terms, conditions, limitations, and restrictions imposed by law upon savings banks in the making and disposing of investments by savings banks; and, subject to like terms, conditions, limitations, and restrictions, said trustees shall have full power to hold, purchase, sell, assign, transfer, or dispose of any of the securities and investments in which any of the funds created by this act shall have been invested as well as of the proceeds of said investments, and of any moneys belonging to said funds. The retirement board shall annually allow regular interest on each of the funds as provided for in this act with the exception of the expense fund and pension reserve fund number two. The amount so allowed shall be due and payable to said funds and shall be annually credited thereto by the retirement board.

2. The comptroller of the city of New York shall be the custodian of the several funds created by this act.

3. Payments from the funds created by this act shall be made by the comptroller of the city of New York upon warrant signed by the chairman and countersigned by the secretary of the retirement board; and no warrant shall be drawn except by order of the retirement board duly entered in the record of its proceedings.

4. For the purpose of meeting disbursements for pensions, annuities and other payments in excess of the receipts, there may be kept an available fund, not exceeding ten per centum of the total amount in the several funds created by this act, on deposit in any bank in this State, organized under the laws thereof or under the laws of the United States, or with any trust company incorporated by any law of this State, provided said bank or trust company shall furnish adequate security for said funds and provided that the sum so deposited in any one bank or trust company shall not exceed twenty-five per centum of the paid-up capital and surplus of said bank or trust company.

5. Except as herein provided no member and no employee of the retirement board shall have any interest, direct or indirect, in the gains or profits of any investment made by the retirement board, nor as such, directly or indirectly, receive any pay or emolument for his serivces. And no member or employee of said retirement board, directly or indirectly, for himself or as an agent or partner of others, shall borrow any of its funds or deposits, or in any manner use the same except to make such current and necessary payments as are authorized by the retirement board; nor shall any member or employee of said retirement board become an endorser or surety or become in any manner an obligor for moneys loaned by or borrowed of said retirement board.

F. The funds hereby created are the expense fund, the contingent reserve fund, pension reserve fund number one, pension reserve fund number two, the annuity savings fund and the annuity reserve fund.

1. The expense fund shall consist of such amounts as shall be appropriated by the board of estimate and apportionment, on estimates submitted by the retirement board, to defray the expenses of the administration of this act, exclusive of the payment of pensions, of annuities, of retirement allowances, and of the other benefits provided for in this act.

2. Beginning in the month of August, nineteen hundred and seventeen, the city of New York shall pay each month into a fund to be known as the contingent reserve fund, on account of each new-entrant who is a contributor, such amount as shall be certified by the retirement board as necessary to provide during the prospective active service of such new-entrant for the death benefit and for the pension reserve required at the

time of retirement to pay the disability or service pension allowable by the city under the provisions of this act. The amount so certified by the retirement board shall be computed to bear a constant ratio to the salary of such new-entrant during his entire period of prospective active service and shall be based on such mortality and other tables as shall be adopted by the retirement board, and on regular interest. Beginning in the year nineteen hundred and eighteen the city of New York shall further pay each year into the said contingent reserve fund one million dollars on account of present-teachers, which payment shall continue until the present value of such amounts so paid into the contingent reserve fund, together with the amounts restored to the contingent reserve fund from pension reserve fund number one on account of present-teachers restored to active service, shall equal the present value of all amounts which have been transferred from the contingent reserve fund to pension reserve fund number one on account of present-teachers plus the present value of all amounts thereafter to be transferred from the contingent reserve fund to said pension reserve fund number one on account of present-teachers; said amounts shall be computed on the basis of such mortality and other tables as shall be adopted by the retirement board, and on regular interest.

3. Upon the retirement of a new-entrant, an amount equal to his pension reserve shall be transferred from the contingent reserve fund into a fund to be known as pension reserve fund number one; his pension shall be paid from said pension reserve fund number one. Should said new-entrant be subsequently restored to active service his pension reserve shall thereupon be transferred from pension reserve fund number one to the contingent reserve fund. Upon the retirement of a present-teacher, an amount equal to the amount of his accumulated deductions not exceeding the amount of his pension reserve shall be transferred from the contingent reserve fund into pension reserve fund number one; a pension which shall be the actuarial equivalent of the amount so transferred shall be paid to said retired present-teacher from pension reserve fund number one. Should said present-teacher be subsequently restored to active service the pension reserve on such pension shall thereupon be transferred from pension reserve fund number one to the contingent reserve fund.

4. Pension reserve fund number two shall consist of the following:

(a) The balance remaining in the permanent fund of the retirement fund of the board of education of the city of New York on the thirty-first day of July, nineteen hundred and seventeen.

(b) The balance remaining in the retirement fund of the board of education of the city of New York on the thirty-first day of July, nineteen hundred and seventeen.

(c) Five per centum of all excise moneys or license fees belonging to the city of New York, and derived or received by any commissioner of excise or public officer from the granting of licenses or permission during the year nineteen hundred and seventeen to sell strong or spirituous liquors, ale, wine, or beer in the city of New York under the provisions of any law of this State authorizing the granting of such license or permission.

(d) The donations, legacies, and gifts which may be made to the retirement system.

(e) The sums now due and which hereafter may become due to the retirement fund of the board of education of the city of New York.

(f) The amounts contributed by the city of New York to pay the pensions of the teachers retired on or before the thirty-first day of July, nineteen hundred and seventeen, and to pay that part of the pensions and

the other benefits of present-teachers who shall be retired or who shall become eligible for retirement after the thirty-first day of July, nineteen hundred and seventeen, which are not payable from any other fund created by this act. Pensions and other benefits, or such part thereof allowable to present-teachers and to present pensioners, provision for the payment of which out of any other fund created by this act is not specifically made, shall be paid out of pension reserve fund number two.

5. The annuity savings fund shall consist of the accumulated deductions from the salaries of contributors made, under such rules and regulations as the retirement board shall prescribe, as follows:

(a) From the salary of each present-teacher who is a contributor there shall be deducted such per centum of his earnable salary as he shall elect, provided, however, that such contributor shall be limited in his choice to one of the following rates:

(1) Three per centum of his earnable salary.

(2) Such per centum of his earnable salary as shall be computed to be sufficient, with regular interest, when paid until age sixty-five, to provide for him on retirement at that age an annuity which, when added to his pension, provided for in this act, will provide a retirement allowance of fifty per centum of his average salary.

(3) A per centum of his earnable salary greater than three per centum thereof.

Should any present-teacher, on becoming a contributor, fail to make such an election, he shall be deemed to have elected a deduction from his salary at the rate of three per centum of his earnable salary.

(b) From the salary of each new-entrant who is a contributor, there shall be deducted such per centum of his earnable salary as shall be computed to be sufficient, with regular interest, to procure for him on service retirement an annuity equal to twenty-five per centum of his average salary; the rate per centum of said deduction from salary shall be based on such mortality and other tables as the retirement board shall adopt, together with regular interest, and shall be computed to remain constant during his prospective teaching service prior to eligibility for service retirement; but no beneficiary restored to duty shall be required to contribute a per centum of his earnable salary greater than the per centum thereof which he was required to contribute prior to his retirement

(c) And the head of each department shall deduct on each and every payroll of a contributor for each and every payroll period subsequent to July thirty-first, nineteen hundred and seventeen, such per centum of the total amount of salary earnable by the contributor in such payroll period as shall be certified to said head of department by the retirement board as proper in accordance with the provisions of this act. In determining the amount earnable by a contributor in a payroll period the retirement board shall consider the rate of salary payable to such contributor on the first day of each regular payroll period as continuing throughout such payroll period and it may omit salary deductions for any period less than a full payroll period in cases where the teacher was not a contributor on the first day of the regular payroll period; and to facilitate the making of the deductions it may modify the deduction required of any contributor by such amount as shall not exceed one-tenth of one per centum of the salary upon the basis of which the deduction is to be made; the deductions provided herein shall be made notwithstanding that the minimum salaries provided for by section ten hundred and ninety-one shall be reduced thereby; and said head of each department shall certify to the comptroller on each and every payroll the amounts to be deducted; and each of said amounts so deducted shall be paid into said annuity savings fund, and

shall be credited together with regular interest to an individual account of the contributor from whose salary the deduction was made.

6. Upon the retirement of a contributor, his accumulated deductions shall be transferred from the annuity savings fund to a fund to be known as the annuity reserve fund; his annuity shall be paid out of said annuity reserve fund. Should such a beneficiary be restored to active service his annuity reserve shall thereupon be transferred from the annuity reserve fund to the annuity savings fund.

7. No contributor shall be required to continue to contribute to the annuity savings fund after he shall have become eligible for service retirement; all contributions made thereafter to said fund shall be voluntary.

G. Regular interest charges payable, the creation and maintenance of reserves in the contingent reserve fund and the maintenance of annuity reserves and pension reserves as provided for in this act and the payment of all pensions, annuities, retirement allowances, refunds, death benefits and any other benefits granted under the provisions of this act are hereby made obligations of the city of New York. All income, interest, and dividends derived from deposits and investments authorized by this act shall be used for the payment of the said obligations of the city of New York. Upon the basis of each actuarial determination and appraisal provided for in this act, the retirement board shall prepare and submit to the board of estimate and apportionment on or before the fifteenth day of September in each year an itemized estimate of the amounts necessary to be appropriated by the city to the various funds to complete the payment of the said obligations of said city accruing during the ensuing fiscal year. The board of estimate and apportionment and the board of aldermen shall make an appropriation which shall be sufficient to provide for such obligations of the city of New York and the amounts so appropriated shall be included in the tax levy and shall be paid by the comptroller into the various funds created by this act.

H. In computing the length of service of a contributor for retirement purposes under the provisions of this act, full credit up to the nearest number of years and months shall be given each contributor by the retirement board (a) for all city-service; and (b) in the case of present-teachers for all teaching or supervisory services in schools and colleges not maintained by the city of New York; and (c) in the case of new-entrants for all teaching or supervisory service not exceeding fifteen years, in schools and colleges not maintained by the city of New York. Under such rules and regulations as the retirement board shall adopt, each teacher shall file with the retirement board a detail statement of all such service rendered by him. As soon as practicable thereafter, the retirement board shall verify such statement as to prior-service and shall issue to each teacher a certificate certifying to the aggregate length of his prior-service. Such certificate shall be final and conclusive as to his prior-service unless thereafter modified by (a) the retirement board upon application by the teacher; or (b) by the board of education upon application by the teacher or by the retirement board, provided such application for modification be made to said board of education within one year after the issuance of a certificate or a modified certificate by the retirement board. A certificate for prior-service issued to a present-teacher shall certify the total length of prior-service allowance for said present-teacher through the sixteenth day of September, nineteen hundred and seventeen. The time during which a contributor was absent on leave of absence without pay shall not be counted in computing the prior-service or the total-service of a contributor, unless allowed both by the head of the department in which the said contributor was employed at the time said leave of absence was granted and by the retirement board; the time

during which a contributor was absent on leave of absence on full pay or part pay from city-service shall be counted in computing the prior-service and the total-service of said contributor. For the purpose of computing prior-service the retirement board shall fix and determine by appropriate rules and regulations how much service rendered on the basis of the hour, day or session, or any other than a per annum basis shall be the equivalent of a year of service. No allowance shall be made for such service as a substitute teacher, night school teacher, vocational school teacher, or for any service rendered in a position to which the contributor was not regularly appointed and served on a per annum salary unless such service was city-service. But all service allowed by the board of examiners of the board of education pursuant to section ten hundred and ninety-one shall be allowed by the retirement board.

1. Any contributor who resigns his position to accept and who, within sixty days thereafter, does accept another position in the city-service shall continue to be a contributor while in said city-service and shall be known as a transferred-contributor provided he executes and files with the retirement board a statement in writing that he elects to leave with the annuity savings fund his accumulated deductions and to continue to contribute to said fund at a rate of salary deduction not less than the rate of deduction theretofore required from his salary, and further provided that he shall waive and renounce any present or prospective benefit from any other retirement system or association supported wholly or in part by the city of New York.

J. Withdrawals from the retirement association shall be by resignation, by transfer, or by dismissal.

1. Should a contributor resign from the position by virtue of which he is a contributor under the provisions of this act, or should he, upon transferring from such a position to another position in the city-service, fail to become a transferred-contributor as provided in subdivision I of this act, his membership in the said retirement association shall cease and he shall be paid forthwith the full amount of the accumulated deductions standing to the credit of his individual account in the annuity savings fund.

2. Should a contributor be dismissed from the position by virtue of which he is a contributor under the provisions of this act, his membership in the retirement association shall cease and there shall be paid him forthwith:

(a) Out of the annuity savings fund the full amount of the accumulated deductions standing to the credit of his individual account; and

(b) In addition thereto, out of pension reserve fund number two, an amount equal to the contributions made by him to the teachers' retirement fund of the board of education of the city of New York as it existed prior to the first day of August, nineteen hundred and seventeen.

K. Retirement for service shall be as follows:

1. Any contributor may retire for service upon written application to the retirement board setting forth at what time subsequent to the execution of said application he desires to be retired. Said application shall retire said contributor at the time so specified, provided

(a) He has reached or passed the age of sixty-five years or

(b) If a present-teacher, he has a total-service of thirty-five years or more; or

(c) If a new-entrant, he has a total-service of thirty-five years or more, at least twenty of which shall have been city-service.

2. Each and every contributor who has attained or shall attain the age of seventy years shall be retired by the retirement board for service forthwith or at the end of the school term in which said age of seventy years is attained.

L. Retirement for disability shall be made and discontinued as follows:

1. Upon the application of the head of the department in which a contributor is employed, or upon the application of said contributor or of one acting in his behalf, the retirement board shall retire said contributor for disability, provided the medical board after a medical examination of said contributor made at the place of residence of said contributor or at a place mutually agreed upon shall certify to the retirement board that said contributor is physically or mentally incapacitated for the performance of duty and that said contributor ought to be retired and provided further that said contributor has had ten or more years of city-service.

2. Once each year, the retirement board may require any disability pensioner while still under the age of sixty-five years to undergo medical examination by a physician or physicians designated by the medical board, said examination to be made at the place of residence of said beneficiary or other place mutually agreed upon. Should the medical board, as the result of such examination, report and certify to the retirement board that such disability beneficiary is no longer physically or mentally incapacitated for the performance of duty, the head of the department in which said beneficiary was employed at the time of his retirement shall, upon notification by the retirement board of such report of the medical board, reappoint said beneficiary to such a position as was held by, and at such a rate of salary as was paid to, said beneficiary at the time of his retirement; but after the expiration of ten years subsequent to the retirement of such beneficiary, his restoration to duty, notwithstanding the recommendation of the medical board, shall be optional with said head of the department.

3. Should any disability beneficiary while under the age of sixty-five years refuse to submit to at least one medical examination in any year by a physician or physicians designated by the medical board, his pension shall be discontinued until the withdrawal of such refusal and should such refusal continue for one year, all his rights in and to the pension constituted by this act shall be forfeited.

4. Upon application of any beneficiary under the age of sixty-five years drawing a pension or a retirement allowance under the provisions of this act, approved by the retirement board, said beneficiary may be restored to active service by the head of the department in which said beneficiary was employed at the time of his retirement. Upon the restoration of a beneficiary to active service his retirement allowance shall cease.

M. A contributor, on retirement, shall receive a retirement allowance which shall consist of:

1. A pension calculated as follows:

(a) For disability retirement twenty per centum of his average salary.

(b) For service retirement, or for disability retirement after he becomes eligible for service retirement, twenty-five per centum of his average salary.

(c) If the contributor retiring is a present-teacher, he shall receive, in addition to the pension prescribed in subdivisions (a) or (b) a pension computed at the rate of one-thirty-fifth of twenty-five per centum of his average salary for each year of prior-service as certified to said present-teacher in the certificate issued to him by the retirement board under the provisions of subdivision H of this act, but in no event shall the total pension exceed fifty per centum of his average salary.

2. An annuity, in addition to the pension, which shall be the actuarial equivalent of his accumulated deductions at the time of his retirement, provided that in no case shall such annuity be less for each one hundred

dollars of accumulated deductions of a present-teacher at the time of retirement than is shown in the following schedule:

Age at retirement	*Annuity in case of men teachers*	*Annuity in case of women teachers*
48	$7.20	$6.52
49	7.34	6.64
50	7.49	6.77
51	7.65	6.90
52	7.82	7.04
53	8.00	7.19
54	8.19	7.35
55	8.39	7.52
56	8.61	7.70
57	8.84	7.89
58	9.09	8.10
59	9.35	8.31
60	9.63	8.54
61	9.93	8.79
62	10.25	9.05
63	10.60	9.33
64	10.96	9.63
65	11.36	9.95
66	11.78	10.30
67	12.24	10.67
68	12.72	11.06
69	13.25	11.48
70	13.81	11.94

N. Upon the death of a contributor before retirement there shall be paid to his estate or to such person as he shall have nominated by written designation duly executed and filed with the retirement board (a) his accumulated deductions; and in addition thereto (b) an amount equal to the salary earnable by him during the six months immediately preceding his death, provided that at the time of his death he had attained the age of sixty-five years or had a total service of thirty-five years and was eligible for service retirement; said amount to be paid out of the contingent reserve fund in the case of a new-entrant, and out of pension reserve fund number two in the case of a present-teacher.

O. At the time of his retirement any contributor may elect to receive his benefits in a retirement allowance payable throughout life or he may on retirement elect to receive the actuarial equivalent at that time of his annuity, his pension, or his retirement allowance in a lesser annuity, or a lesser pension, or a lesser retirement allowance, payable throughout life, with the provision that:

Option I. If he die before he has received in payments the present value of his annuity, his pension, or his retirement allowance, as it was at the time of his retirement, the balance shall be paid to his legal representatives or to such person, having an insurable interest in his life, as he shall nominate by written designation duly acknowledged and filed with the retirement board at the time of his retirement.

Option II. Upon his death, his annuity, his pension, or his retirement allowance, shall be continued throughout the life of and paid to such person, having an insurable interest in his life, as he shall nominate by written designation duly acknowledged and filed with the retirement board at the time of his retirement.

Option III. Upon his death, one-half of his annuity, his pension, or

his retirement allowance, shall be continued throughout the life of and paid to such person, having an insurable interest in his life, as he shall nominate by written designation duly acknowledged and filed with the retirement board at the time of his retirement.

Option IV. Some other benefit or benefits shall be paid either to the contributor or to such other person or persons as he shall nominate, provided such other benefit or benefits together with such lesser annuity, or lesser pension, or lesser retirement allowance shall be certified by the actuary of the retirement board to be of equivalent actuarial value and shall be approved by the retirement board.

P. The pensions of all persons who are now receiving a pension paid out of the teachers' retirement fund of the board of education of the city of New York shall not be increased or decreased, and all such pensions now due shall be paid forthwith and those hereafter becoming due shall be paid as they become due out of pension reserve fund number two.

Q. A pension, an annuity or a retirement allowance, granted under the provisions of this act, shall be paid in equal monthly instalments, and shall not be decreased, increased, revoked or repealed except as otherwise provided in subdivision L of this act.

R. Subject to such terms and conditions and to such rules and regulations as the retirement board may adopt, any contributor from time to time may:

(a) Increase or decrease his rate of contribution to the annuity savings fund, but in no event shall the contribution of a present-teacher be less than the minimum contribution, nor shall the contribution of a new-entrant be at a rate less than the per centum rate provided for said new-entrant in subdivision F-five-b of this act;

(b) If a present-teacher, withdraw from his individual account in the annuity savings fund the amount in excess of his minimum accumulation;

(c) Withdraw, after having become eligible for service retirement, such part of his accumulated deductions as shall be in excess of the amount necessary to procure for him an annuity which if added to his prospective pension, will yield a retirement allowance of fifty per centum of his average salary;

(d) Borrow from the retirement board, if a present-teacher and if the application is made prior to July first, nineteen hundred and twenty, on a policy of life insurance, a sum of money not exceeding the loan value of said policy as set forth in the body thereof, and at a rate of interest not exceeding five per centum per annum, provided that:

1. The applicant has a policy of life insurance in which he is designated as the assured and said policy is issued by a life insurance company permitted to transact business in the state of New York, and said policy is free from any liens or claims and is in full force and effect at the time of the making of the loan.

2. The applicant on securing the loan shall deposit said life insurance policy with the retirement board accompanied with an assignment of said policy to the retirement board; said assignment shall be executed by the applicant and by all adult beneficiaries named in said policy. Should any of the beneficiaries named in said policy be infants, said retirement board shall not grant the loan until after it has made a careful investigation into the merits thereof and an order has been made and entered by the supreme court directing such loan after due notice to such insurance company. If, thereafter, the retirement board shall grant the loan, its action shall be binding on said infant beneficiaries with the same force and effect as if they were adult beneficiaries and had executed the assignment required herein.

3. After said policy has been assigned to and deposited with the retirement board for the purposes herein stated, said policy shall not be assigned, transferred, or disposed of, or changed in any of its terms without the written consent of the retirement board.

4. The retirement board shall notify the life insurance company carrying said policy of the assignment thereof and said assignment shall be binding on said company.

(e) If a present-teacher, retire upon written application to the retirement board after he has completed thirty years of service upon retirement allowance consisting of

(1) An annuity which shall be the actuarial equivalent of his accumulated deductions; and, in addition thereto,

(2) Such pension as shall be certified by the actuary of the retirement board to have an actuarial value equivalent to the reserve which would be in the contingent reserve fund had the city contributed on account of such present-teacher from the date of his entrance into service, in such manner as is provided for the city's contributions on behalf of new-entrants in subdivision F, paragraph two, of this act, the amount determined by the actuary of the retirement board to be necessary to provide for the death benefit and for the pension reserve required at the time of retirement to pay the pension allowable by the city as provided in this act. In determining the amount of the reserve the actuary of the retirement board shall base his calculations on the tables then in use as the basis for determining the rates of contribution required of the city on account of new-entrants.

S. Teachers, hereafter appointed in the schools or classes maintained in the institutions controlled by the department of public charities or by the department of correction, shall be appointed by the commissioner of the appropriate department upon the nomination of the city superintendent of schools and shall be licensed by the board of examiners of the department of education. The department of education through such representatives as it may designate shall maintain an effective visitation and inspection of all such schools and classes.

T. There shall be a medical board of three physicians constituted as follows:

(a) One physician appointed to serve to August first, nineteen hundred and twenty-two, who shall be appointed by the members of the retirement board who are contributors.

(b) One physician appointed to serve to August first, nineteen hundred and twenty-one, who shall be appointed by the members of the retirement board who are not contributors.

(c) One physician appointed to serve to August first, nineteen hundred and twenty, who shall be appointed by the retirement board. Said physician shall be an expert in women's diseases and in diseases of the nervous system.

Their successors shall be appointed to serve for a term of three years; vacancies shall be filled for the unexpired term. All appointments for a full term or for an unexpired term shall be made in the manner provided in this section for the original appointment.

U. The retirement system created by this act shall be subject to the supervision of the department of insurance in accordance with the provisions of sections thirty-nine and forty-five of the insurance law, so far as the same are applicable thereto and are not inconsistent with the provisions of this act.

V. If, after August first, nineteen hundred and seventeen, any present-teacher shall recover a judgment for arrears of salary covering in whole or in part any period prior to said date, the comptroller of the city

of New York before paying said judgment shall deduct therefrom the per centum of salary theretofore contributed by said teacher to the retirement fund of the board of education, as it existed prior to said date, and said deduction shall be paid into pension reserve fund number two.

W. The right of a person to a pension, an annuity, or a retirement allowance, to the return of contributions, the pension, annuity, or retirement allowance itself, any optional benefit, any other right accrued or accruing to any person under the provisions of this act, and the moneys in the various funds created under this act, are hereby exempt from any state or municipal tax, and exempt from levy and sale, garnishment, attachment, or any other process whatsoever, and shall be unassignable except as in this act specifically otherwise provided.

The general care and management of the public school teachers' retirement fund created for the former city of New York by chapter two hundred and ninety-six of the laws of eighteen hundred and ninety-four, and of the public school teachers' retirement fund created for the former city of Brooklyn, by chapter six hundred and fifty-six of the laws of eighteen hundred and ninety-five, is hereby given to the board of education, and the said funds are hereby made parts of the retirement fund of the board of education of the city of New York created by this act. The board of education shall from time to time establish such rules and regulations for the administration of said fund as it may deem best, which rules and regulations shall preserve all rights inhering in the teachers of the city of New York and the city of Brooklyn as constituted prior to the passage of this act; and said board shall make payments from said fund of annuities granted in pursuance of this act. The comptroller of the city of New York shall hold and invest all money belonging to said fund, and by direction of said board of education, shall pay out the same; and he shall report in detail to the board of education of the city of New York, annually, in the month of January, the condition of said fund and the items of receipts and disbursements on account of the same. The said retirement fund shall consist of the following, with the interest and income thereof: (1) All money, pay, compensation or salary, or any income thereof forfeited, deducted, reserved, or withheld for any cause from any member or members of the teaching or supervising staff of the public day schools of the city of New York or of the normal college and training department of the normal college of the city of New York, or of schools or classes maintained in institutions controlled by the department of public charities or by the department of correction, in pursuance of rules established or to be established by the board of education, or by the board of trustees of the normal college of the city of New York, or by the commissioner of public charities, or by the commissioner of correction for schools or classes maintained by such commissioners respectively. The auditor of the board of education, the auditor of the board of trustees of the normal college, the commissioner of public charities, and the commissioner of correction shall certify monthly to the comptroller the amounts so forfeited, deducted, reserved or withheld during the preceding month. Said amounts shall be turned into the said retirement fund. (2) All moneys received from donations, legacies, gifts, bequests, or otherwise for or on account of such fund. (3) Five per centum annually of all excise moneys or license fees belonging to the city of New York, and derived or received by any commissioner of excise or public officer from the granting of licenses or permission to sell strong or spirituous liquors, ale, wine, or beer in the city of New York, under the provisions of any law of this State authorizing the granting of such license or permission. (4) One per centum of the salaries of all members of the teaching and supervising staff of the public day

schools of the city of New York, and of the normal college and training department of the normal college of the city of New York, and of schools or classes maintained in institutions controlled by the department of public charities or by the department of correction of the city of New York, except that the amount deducted from the salary of any teacher or principal of the public day schools of the city of New York or of schools or classes maintained in institutions controlled by the department of public charities or by the department of correction of the city of New York, in this manner, shall not exceed thirty dollars in any one year, and the amount deducted from the salary of any supervising official, in this manner, shall not exceed forty dollars in any one year. And the board of education, the board of trustees of the normal college, the commissioner of public charities, and the commissioner of correction shall, after the passage of this act, deduct on each and every payroll of the said teaching and supervising staff said one per centum from each and every amount earnable in the period covered by the said payroll, notwithstanding the minimum salaries provided for by section ten hundred and ninety-one of the charter shall be thereby reduced, and shall certify monthly to the comptroller, the amounts so deducted; and said amounts shall be turned into the said retirement fund. All deductions made under the provisions of this clause from the salary of any person who may be dismissed from the service for cause, before said person shall have become eligible for retirement, under the provisions of this act, shall be refunded to said person upon such dismissal. (5) All such other methods of increment as may be duly and legally devised for the increase of said fund. The moneys standing to the credit of the retirement fund on the thirty-first day of December, nineteen hundred and four, after subtracting therefrom any amounts forfeited, deducted, reserved or withheld from salaries for absences prior to that date, which may, on excuse of absence, be refunded after that date. all excise moneys of nineteen hundred and four which may have been credited to said fund on or before that date, and all interest for nineteen hundred and four on said fund, which may have been credited to said fund on or before said date, shall be set apart by the comptroller as a permanent fund. The unexpended balances of the income of the teachers' retirement fund for the year nineteen hundred and five, and for all subsequent years shall be added to the said permanent fund. The comptroller shall invest the said permanent fund, and the income thereof may be used for the payment of annuities, but if necessary, in order to carry out the provisions of this act, the board of education may use any portion of the permanent fund in excess of eight hundred thousand dollars in the same manner as the income thereof. The president of the board of education, the chairman of the committee on elementary schools of said board, the chairman of the committee on high schools of said board, the city superintendent of schools, and three members to be selected from the principals, assistants to principals and teachers of the public day schools shall constitute a board of retirement. The three last-named members shall be chosen as follows: On the second Thursday of May in each year the principals, assistants to principals and teachers in each district shall meet at the call of the district superintendent, which call he shall issue at least one week before said meeting, and at a place within the district designated by him, to select by ballot one of their number as district representative to serve for one year. At the close of said meeting, the presiding officer shall transmit to the secretary of the board of education the name and address of the district representative so chosen. The district representatives shall meet at 4 o'clock in the afternoon on the third Thursday of May at the hall of the board of education and choose by ballot one of

their number to serve on the board of retirement for three years from the first day of the following June. At the first meeting of the district representatives after this law takes effect, they shall choose by ballot three of their number to serve on the board of retirement, and the three so chosen shall by lot fix and determine their terms of office as one, two and three years respectively. Should a vacancy occur among the members of the board of retirement so chosen, the district representatives shall meet and choose by ballot one of their number to serve on the board of retirement for the unexpired term. On the recommendation of the board of retirement, said board of education shall have power, by a two-thirds vote of all its members, to retire any member of the teaching or supervising staff of the public day schools of the city of New York, or of schools or classes maintained in institutions controlled by the department of public charities or by the department of correction who is mentally or physically incapacitated for the performance of duty, and who has been engaged in the work of teaching or of school or college supervision, or of examination of teachers for licenses, or any two or more of these several kinds of work, for a period aggregating twenty years, fifteen of which shall have been in the public day schools in the city of New York, or in schools or classes maintained in institutions controlled by the department of public charities or by the department of correction. And the board of education may retire from active service any member of the said teaching or supervising staff who shall have attained the age of sixty-five years and shall have been engaged in the work of teaching or school supervision for a period aggregating thirty years. On the recommendation of the board of retirement, the board of education shall have power, by a two-thirds vote of all its members, to retire upon his or her own application any member of the teaching or supervising staff of the public day schools of the city of New York, or of schools or classes maintained in institutions controlled by the dapartment of public charities or by the department of correction who has been engaged in the work of teaching or of school or college supervision, or of examination of teachers for licenses, or any two or more of these several kinds of work, for a period aggregating thirty years, fifteen of which shall have been in any of the said institutions. The said board of education shall also have power, by a two-thirds vote of all its members, and after recommendation to that effect shall have been made by the board of trustees of the normal college stating that the member of the supervising or teaching force is mentally or physically incapacitated for the performance of duty, to retire any member of the teaching or supervising force of the normal college or of the training department of the normal college who shall have been engaged in said normal college or training department or elsewhere in the public school system of the city of New York for ten years and shall have been engaged in the work of teaching or of school or college supervision or of examination of teachers for licenses, or any two or more of said several kinds of work, during a period aggregating twenty years. The said board of education, upon the recommendation of the trustees of the normal college may also, in its discretion retire any member of the teaching or supervising force upon his or her own application who shall have been engaged in the work of teaching or school or college supervision or examination of teachers for licenses, or any two or more such occupations, for a period aggregating thirty years. Upon such retirement, whether voluntary or otherwise, the person retired shall be entitled to receive an annuity out of the teachers' retirement fund of not less than one-half of the annual salary paid to such person at the period of retirement, and in case of the president or of a professor to such an additional sum per annum as will increase such one-half of the salary

previously paid if not an even multiple of one thousand dollars to an even multiple of one thousand dollars. Any person retired under the provisions of this act after thirty years of service, except as hereinbefore in this section provided in the case of the president or of a professor of the normal college, shall receive as an annuity one-half of the annual salary paid to said person at the date of said retirement, not to exceed, however, in the case of a teacher or principal, the sum of fifteen hundred dollars per annum, and in the case of a supervising official, two thousand dollars per annum. And in no case shall the annuity of any person already retired or hereafter to be retired after thirty years of service be less than six hundred dollars. Any person retired after twenty years of service, but with less than thirty years of service, shall receive an annuity which bears the same ratio to the annuity provided for on retirement after thirty years of service as the total number of years of service of said person bears to thirty years. The annuities provided for by this act shall be payable in monthly installments. All retirements made under the provisions of this act shall take effect either on the first day of February or on the first day of September. The number of persons retired in any one year shall be so limited that the entire amount of the annuities to be paid for that year shall not be in excess of the estimated amount of the retirement fund applicable to the payment of annuities for that year. The words "teaching and supervising staff of the public day schools of the city of New York" as used in this section, shall include the city superintendent of schools, the associate city superintendents, the district superintendents, the director and assistant director of the division of reference and research, the members of the board of examiners, directors and assistant directors of special branches, the supervisor and assistant supervisor of lectures, all principals, vice-principals, assistants to principals, heads of departments, and all regular and special teachers of the public day schools of the city of New York. Nothing in this act shall be construed as prohibiting the reappointment to active service, on his or her own application, of any person who has been retired under the provisions of this act. Upon the reappointment of any such person the payment of the annuity of said person shall be discontinued. Teachers hereafter appointed in schools or classes maintained in the institutions controlled by the department of public charities or by the department of correction, shall be appointed by the commissioner of the appropriate department upon the nomination of the city superintendent of schools and shall be licensed by the board of examiners of the department of education. The department of education through such representatives as it may designate shall maintain an effective visitation and inspection of all such schools and classes.

§ 2. Section ten hundred and ninety-two-a, as amended by chapter one hundred and seven of the laws of nineteen hundred and five, section ten hundred and ninety-two-b, as amended by chapter five hundred and five of the laws of nineteen hundred and nine, and section ten hundred and ninety-two-c, as amended by chapter six hundred and thirteen of the laws of nineteen hundred and sixteen, are hereby repealed.

§ 3. This act shall take effect on August first, nineteen hundred and seventeen, except as to subdivisions B, C, D, E, paragraph 5; subdivision F, paragraph one, and the provision of subdivision F, paragraph 5, part (a), which provides for the election of a rate of salary deduction by any person entitled to make such election and the further provision of the same part which provides that if any person entitled to make such election fails so to do he shall be deemed to have elected a deduction from his salary at the rate of three per centum of his earnable salary; subdivisions H, T, and U, and as to provisions of such subdivisions, para-

graphs and parts of paragraphs this act shall take effect immediately.

(c) Pennsylvania

Laws of 1917, No. 343.—An Act.—Establishing a public school, employes' retirement system, and creating a retirement board for the administration thereof; establishing certain funds from contributions by the Commonwealth and contributing employes, defining the uses and purposes thereof and the manner of payments therefrom, and providing for the guaranty by the Commonwealth of certain of said funds; imposing powers and duties upon boards having the employment of public school employes; exempting annuities, allowances, returns, benefits, and rights from taxation and judicial process; and providing penalties.

DEFINITIONS

Section 1. Be it enacted, etc., that the following words and phrases as used in this act, unless a different meaning is plainly required by the context, shall have the following meanings:

(1) "Retirement System" shall mean the arrangement for the payment of retirement allowances under the provisions of this act.

(2) "Retirement Association" shall mean the employes' retirement association provided for in section three of this act.

(3) "Retirement Board" shall mean the employes' retirement board provided for in section four of this act.

(4) "Superintendent of Public Instruction" shall mean the Superintendent of Public Instruction of the Commonwealth of Pennsylvania.

(5) "Public School" shall mean any class, school, high school, normal school, training school, vocational school, truant school, parental school, and any or all classes or schools. within the State of Pennsylvania, conducted under the order and superintendence of the Department of Public Instruction of the Commonwealth of Pennsylvania and of a duly elected or appointed board of public education, board of school directors, or board of trustees, of the Commonwealth, or of any school district or normal school disrtict thereof, and shall include the officers of the State Department of Public Instruction and the State Board of Education.

(6) "Employer" shall mean the Commonwealth, school district, normal school district, board, or other committee by which the employe is paid.

(7) "Employe" shall mean any teacher, principal, supervisor, supervising principal, county superintendent, district superintendent, assistant superintendent, any member of the staff of the State normal schools, or of the staff of the State Department of Public Instruction, or of the staff of the State Board of Education, or any clerk, stenographer, janitor, attendance officer, or other person engaged in any work concerning or relating to the public schools of this Commonwealth, or in connection therewith, or under contract or engagement to perform one or more of these functions: Provided, That no person shall be deemed an employe, within the meaning of this act, who is not regularly engaged in performing one or more of these functions as a full-time occupation, outside of vacation periods. In all cases of doubt the retirement board shall determine whether any person is an employe as defined in this act.

(8) "Present Employe" shall mean any employe, as defined in paragraph seven of this section, employed in any capacity in connection with the public schools at the time this bill becomes a law, and any employe who was employed prior to such time and who shall become a contributor within three years from the date of expiration of such employment.

(9) "New entrant" shall mean any employe, as defined in paragraph

seven of this section, appointed or elected, or contracting or otherwise legally engaging, to serve in any capacity in connection with the public schools after this bill becomes a law.

(10) "Contributor" shall mean any person who has an account in the annuity savings fund.

(11) "Beneficiary" shall mean any person in receipt of a retirement allowance or other benefit as provided in this act.

(12) "School Service" shall mean any service as an employe as defined by paragraph seven of this section.

(13) "Prior Service" shall mean all school service completed not later than the thirtieth day of June, nineteen hundred and nineteen.

(14) "School Year" shall mean the official school year of the school district in which an employe is employed.

(15) "Disability Retirement" shall mean retirement as defined in section twelve of this act.

(16) "Superannuation Retirement" shall mean retirement as defined in section thirteen of this act.

(17) "Final Salary" shall mean the average annual salary, not exceeding $2,000, earnable by a contributor as an employe for the ten years of service immediately preceding retirement.

(18) "Accumulated Deductions" shall mean the total of the amounts deducted from the salary of a contributor and credited to his or her individual account in the annuity savings fund, together with the regular interest thereon.

(19) "Regular Interest" shall mean interest at four per cent. per annum, compounded annually.

(20) "State Annuity" shall mean payments for life, derived from contributions made by the Commonwealth of Pennsylvania as provided in this act.

(21) "Employe's Annuity" shall mean payments for life, derived from contributions made by a contributor as provided in this act.

(22) "Retirement Allowance" shall mean the State annuity plus the employe's annuity.

(23) "State Annuity Reserve" shall mean the present value, computed on the basis of such mortality tables as shall be adopted by the retirement board, with regular interest, of the future payments to be made on account of any State annuity granted, and based on contributions made by the Commonwealth of Pennsylvania.

(24) "Employe's Annuity Reserve shall mean the present value, computed on the basis of such mortality tables as shall be adopted by the retirement board, with regular interest, of the future payments to be made on account of any employe's annuity granted, and based on the accumulated deductions of the contributor.

(25) "Expense Fund" shall mean the fund provided for in paragraph number two in section eight of this act.

(26) "Contingent Reserve Fund" shall mean the fund provided for in paragraph number three in section eight of this act.

(27) "State Annuity Reserve Fund" shall mean the fund provided for in paragraph number four in section eight of this act.

(28) "State Annuity Reserve Fund Number Two" shall mean the fund provided for in paragraph number five in section eight of this act.

(29) "Employes' Annuity Savings Fund" shall mean the fund provided for in paragraph number six in section eight of this act.

(30) "Employes' Annuity Reserve Fund" shall mean the fund provided for in paragraph number seven in section eight of this act.

RETIREMENT SYSTEM

Section 2. The retirement system shall be established on the first day of July, nineteen hundred and nineteen.

EMPLOYES' RETIREMENT ASSOCIATION

Section 3. An employes' retirement association is hereby organized, the membership of which shall consist of the following:

1. All present employes, except those specifically excluded by paragraph three of this section, who by written application to the Superintendent of Public Instruction shall elect, before the first day of July, nineteen hundred and nineteen, to be covered by the retirement system.

2. All new entrants, except those specifically excluded by paragraph three of this section.

3. Present employes who are members, and new entrants who become members, of a retirement system, maintained under the laws of the Commonwealth from appropriations or contributions made wholly or in part by any employer, and existing at the time this bill becomes a law, shall be excluded from membership in this retirement association. But should two-thirds of all the members participating in any such retirement system apply for membership in the retirement association, by a petition duly signed and verified, approved by their employer, and filed with the retirement board, all the persons included in the membership of such retirement system shall become members of the retirement association at such time, within three months after the filing of such petition, as the retirement board shall designate. Thereupon the retirement system of which they were members at the time they were included in the retirement association provided by this act shall be dissolved and discontinued as follows:

The payment of retirement allowances or other benefits which were in effect at the time of such discontinuance shall become an obligation of the employer, shall be continued as formerly provided by such retirement system, and shall be paid out of such moneys, excepting further contributions of members, as were formerly available for such payment, and the employer shall appropriate for such purpose such other moneys as shall be required.

All present assets of such retirement system at the time of its discontinuance shall be transferred to the employer, to be held and invested as a trust fund and disbursed only in payment to the before-mentioned retired members, except that if the amount of such present assets exceed the present value of the future retirement allowances or other benefits of such retired members, computed on the basis of such tables as the retirement board shall have adopted for similar classes of annuitants, and of regular interest, the amount of the excess shall thereupon be transferred to State annuity reserve fund number two. Upon the retirement of any contributor of the retirement association established by this act, who has not received back any contributions which he or she made to such discontinued retirement system, there shall be paid from State annuity reserve fund number two into employes' annuity reserve fund the amount of such contributions, and he or she shall receive therefor such annuity or other benefit purchasable therewith as he or she may elect, in addition to the other benefits provided by this act.

THE RETIREMENT BOARD

Section 4. A retirement board of seven members is hereby constituted, which shall consist of the following:

(a) The Superintendent of Public Instruction.

(b) The Treasurer of the Commonwealth of Pennsylvania.

(c) One member who shall be appointed by the Governor of the Commonwealth of Pennsylvania, who shall serve until his successor is appointed.

(d) Three members of the retirement association, elected from among their number in a manner to be approved by the Superintendent of Public Instruction, the State Treasurer, and the member of the retirement board appointed by the Governor,—one to serve for one year, one for two years, and one for three years; and whose successors shall be elected, for a term of three years, from among the members of the retirement association, in a manner to be approved by the retirement board.

(e) One member, not an employe nor officer or employe of the State, who shall be elected annually by the board, to serve for a term of one year.

A vacancy occurring during a term shall be filled for the unexpired term by the appointment of a successor in the same manner as his or her predecessor. Until the organization of the retirement association, and the election of three representatives therefrom, the Superintendent of Public Instruction, the State Treasurer, and the member appointed by the Governor, are empowered to perform the duties of the retirement board.

2. The members of the retirement board shall serve without compensation, but shall be reimbursed from the expense fund for any necessary expenditures, and no contributor shall suffer loss of salary or wages through serving on the retirement board.

3. The retirement board shall elect, from its membership, a chairman, and shall appoint a secretary, an actuary, and such medical, clerical, and other employes as may be necessary.

4. The compensation of all persons employed by the retirement board shall be fixed by said retirement board.

5. Subject to the limitations of this act and of law, the retirement board shall, from time to time, establish rules and regulations for the administration of the funds created by this act and for the transaction of its business.

6. The retirement board shall keep, in convenient form, such data as shall be necessary for actuarial valuation of the various funds created by this act.

7. In the years nineteen hundred and twenty-one and nineteen hundred and twenty-four, and in every fifth year thereafter, the actuary of the retirement board shall make an actuarial investigation into the mortality and service experience of the contributors and beneficiaries as defined in this act, and shall make a valuation of the various funds created by this act; and, on the basis of such investigation and valuation, the retirement board shall—

(a) Adopt for the retirement system one or more mortality tables, and such other tables as shall be deemed necessary;

(b) Certify the rates of deduction from salary necessary to pay the annuities authorized under the provisions of this act; and

(c) Certify the rates of contribution, expressed as a percentage of salary of new entrants at various ages, which shall be made by the Commonwealth to the contingent reserve fund.

8. Immediately after the passage of this act, the actuary of the retirement board shall make such investigation of the mortality service and salary experience of the employes of the public schools as he shall recommend and the retirement board shall authorize, for the purpose of determining upon the proper tables to be prepared and submitted to the retirement board for adoption. On the basis of such investigation and recommendation the retirement board shall adopt such tables and certify

such rates as are required in subsections a, b, and c of paragraph seven, immediately preceding. On the basis of such tables the actuary of the retirement board shall, immediately after the first day of July, nineteen hundred and ninteen, make a valuation of the various funds created by this act.

9. The retirement board shall publish annually a report shownig the condition of the various funds created by this act, and setting forth such other facts, recommendations, and data as may be of use in the advancement of knowledge concerning employes' pensions and annuities, and said retirement board shall submit said report to the Governor of the Commonwealth of Pennsylvania; and shall file copies thereof in the offices of the State Department of Public Instruction, of the State Insurance Department, and of each employer, for use of the employes and the public.

10. Each member of the retirement board shall take an oath of office that he or she will, so far as it devolves upon him, diligently and honestly administer the affairs of said retirement board, and that he or she will not knowingly violate or wilfully permit to be violated any of the provisions of law applicable to this act. Such oath shall be subscribed by the member making it, and certified by the officer before whom it is taken, and shall be immediately filed in the office of the Secretary of State.

11. The retirement board shall keep a record of all of its proceedings, which shall be open to inspection by the public.

12. The retirement board shall perform such other functions as are required for the execution of the provisions of this act.

CORPORATE POWERS

Section 5. For the purposes of this act the retirement board shall possess the powers and privileges of a corporation. The Attorney General of the Commonwealth of Pennsylvania shall be the legal adviser of said retirement board.

MANAGEMENT OF THE FUNDS

Section 6. The funds created by this act shall be managed as follows:

1. The members of the retirement board shall be the trustees of the several funds created by this act, and shall have exclusive control and management of the said funds and full power to invest the same; subject, however, to all the terms, conditions, limitations and restrictions imposed by this act upon the making of investments; and subject, also, to the terms, conditions, limitations, and restrictions imposed by law upon savings banks, in the making and disposing of their investments; and, subject to like terms, conditions, limitations, and restrictions, said trustees shall have full power to hold, purchase, sell, assign, transfer, or dispose of any of the securities and investments in which any of the funds created by this act shall have been invested, as well as of the proceeds of said investments and of any moneys belonging to said funds.

2. The retirement board shall annually allow regular interest on the mean amount for the preceding year in each of the funds created in accordance with the provisions of this act, with the exception of the expense fund. The amount so allowed shall be due and payable to such funds, and shall be annually credited thereto by the retirement board.

3. The treasurer of this Commonwealth shall be the custodian of the several funds created by this act.

4. All payments from the funds created by this act shall be made by the State Treasurer only, upon warrants signed by the chairman of the retirement board and countersigned by the secretary of the retirement

board; and no warrant shall be drawn except by order of the retirement board, duly entered in the record of its proceedings.

5. For the purpose of meeting disbursements for annuities and other payments in excess of the receipts, there may be kept as available fund, not exceeding ten per centum of the total amount in the several funds created by this act, on deposit in any bank in this Commonwealth organized under the laws thereof or under the laws of the United States, or with any trust company incorporated by any law of this Commonwealth, provided said bank or trust company shall furnish adequate security for said funds; and provided that the sum so deposited in any one bank or trust company shall not exceed twenty-five per centum of the paid-up capital and surplus of said bank or trust company.

6. Except as herein provided, no trustee or any person connected with the retirement board shall have any interest, direct or indirect, in the gains or profits of any investment made by the retirement board; nor, as such, directly or indirectly, receive any pay or emoluments for his or her services. And no trustee or person connected with said retirement board, directly or indirectly, for himself or herself, or as an agent or partner of others, shall borrow any of its funds or deposits, or in any manner use the same, except to make such current and necessary payments as are authorized by the board of trustees; nor shall any trustee or person connected with said retirement board become an endorser or surety, or become in any manner an obligor, for moneys loaned by or borrowed of said retirement board.

DUTIES OF THE EMPLOYER

Section 7. Each employer shall, before employing any person to whom this act may apply, notify such person of his or her duties and obligations under this act, as a condition of his or her employment.

2. During September of each year each employer shall certify to the retirement board the name of all employees to whom this act applies.

3. Each employer shall, on the first day of each calendar month, notify the retirement board of the employment of new employes, removals, withdrawals, and changes in salary of employes, that shall have occurred during the month preceding.

4. Under the direction of the retirement board, each employer shall furnish such other information as the board may require in the discharge of its duties.

5. Each employer shall cause to be deducted on each and every payroll of a contributor, for each and every payroll period subsequent to June thirtieth, nineteen hundred nineteen, such per centum of the total amount of salary earnable by the contributor in such payroll period as shall be certified to said employer by the retirement board as proper, in accordance with the provisions of this act. No deductions shall be made from that part of the salary earnable by any contributor which is at a rate in excess of two thousand dollars per annum. In determining the amount earnable by a contributor in a payroll period, the retirement board may consider the rate of salary payable to such contributor on the first day of each regular payroll period as continuing throughout such payroll period, and it may omit salary deductions for any period less than a full payroll period in cases where the employe was not a contributor on the first day of the regular payroll period; and, to facilitate the making of the deductions, it may modify the deductions required of any contributor by such amount as shall not exceed one-tenth of one per centum of the salary upon the basis of which the deduction is to be made. The deductions provided herein shall be made, notwithstanding that minimum salaries provided for by the

laws, ordinances, resolutions, or other acts of the Commonwealth, or of any other employer, shall be reduced thereby. Each employer shall certify to the treasurer of said employer, on each and every payroll, a statement as voucher for the amounts so deducted, and shall send a duplicate of such statement to the secretary of the retirement board.

6. The treasurer of each employer, on receipt from the employer of the voucher for deductions from the salaries of employes, provided in paragraph five of this section, shall transmit monthly, or at such times as the retirement board shall designate, the amounts specified in such voucher to the secretary of the retirement board. The secretary of the retirement board, after making a record of all such receipts, shall pay them to the treasurer of the Commonwealth, for use according to the provisions of this act.

7. Each employer shall keep such records as the retirement board may require.

FUNDS

Section 8. The funds hereby created are,—the expense fund, the contingent reserve fund, State annuity reserve fund, State annuity reserve fund number two, the employes' annuity savings fund, and the employes' annuity reserve fund.

2. The expense fund shall consist of such amounts as shall be paid by the Commonwealth, on the basis of estimates submitted by the retirement board, to defray the expenses of the administration of this act, exclusive of the payment of retirement allowances and of the other benefits provided for in this act.

3. In the month of July, 1920, for a period covering the twelve months next preceding, and semiannually thereafter, covering the six months next preceding, the Commonwealth of Pennsylvania shall pay into a fund to be known as the contingent reserve fund, on account of each new entrant who was a contributor for one or more months of such respective periods, such amount as shall be certified by the retirement board as necessary to provide by such method of payment, during the prospective active service of such new entrant, the State annuity reserve required at the time of retirement for the disability or superannuation State annuity allowable by the said Commonwealth, under the provisions of this act. The amount so certified by the retirement board shall be computed to bear a ratio to the salary earnable by such new entrant during the period for which the amount is certified, which shall remain constant during his or her entire period of prospective active service, and shall be based on such mortality and other tables as shall be adopted by the retirement board, and on regular interest.

4. Upon the retirement of a new entrant an amount equal to his or her State annuity reserve shall be transferred from the contingent reserve fund into a fund to be known as State annuity reserve fund. His or her State annuity shall be paid from said State annuity reserve fund. Should said new entrant be subsequently restored to active service, his or her State annuity reserve shall thereupon be transferred from State annuity reserve fund to the contingent reserve fund. Should the State annuity of any such new entrant be otherwise reduced or discontinued, in accordance with the provisions of this act, his or her State annuity reserve, or such proportionate part of his or her State annuity reserve as corresponds to the amount of the reduction in his or her State annuity, shall be transferred from State annuity reserve fund to the contingent reserve fund.

5. Beginning with the month of July, nineteen hundred nineteen, and continuing until the accumulated reserve equals the present value, as computed by the actuary of the retirement board and approved by the

retirement board, of all State annuity payments thereafter payable by the Commonwealth on account of present employes, then retired or to be retired on State annuities as provided in this act, the said Commonwealth shall pay semi-annually into a fund, to be known as State annuity reserve fund number two, an amount equal to two and eight-tenths (28) per centum of the total compensation paid to all contributors for service during the preceding school year, and in every case an amount at least three per centum greater than the second preceding semi-annual payment: Provided, That in every case the amount shall be sufficient, when combined with that in the fund, to provide the pensions payable by the Commonwealth during the half-year then current to present employes, then retired or to be retired as provided in this act. Upon the retirement of a present employe his or her State annuity shall be paid from State annuity reserve fund number two.

6. The employes' annuity savings fund shall consist of the accumulated deductions from the salaries of contributors, made under such rules and regulations as the retirement board shall prescribe, as follows:

From the salary of each employe who is a contributor there shall be deducted such per centum of his or her earnable salary, not exceeding two thousand dollars per annum, as shall be computed to be sufficient, with regular interest, to procure for him or her, on superannuation retirement at age sixty-two, an employe's annuity equal to one one-hundred-sixtieth (1-160) of his or her final salary for each year of service after the thirtieth day of June, nineteen hundred nineteen, except that, if the deduction so computed shall exceed five per centum of his or her earnable salary, and the employe shall so elect, there shall be deducted five per centum of his or her earnable salary: And further provided, That a beneficiary restored to school service shall not be required to contribute at a per centum rate of his or her earnable salary which is greater than the per centum thereof which he or she was required to contribute prior to his or her retirement. The rate per centum of said deduction from salary shall be based on such mortality and other tables as the retirement board shall adopt, together with regular interest, and shall be computed to remain constant during the prospective school service of the contributor.

7. Upon the retirement of a contributor his or her accumulated deductions shall be transferred from the employes' annuity savings fund to a fund to be known as the employes' annuity reserve fund. His or her employes' annuity shall be paid out of said employes' annuity reserve fund. Should said contributor be subsequently restored to active service, his or her employes' annuity reserve shall thereupon be transferred from the employes' reserve fund to the employes' annuity savings fund.

8. No contributor shall be required to continue to contribute to the employes' annuity savings fund after he or she shall have become eligible for superannuation retirement; all contributions made thereafetr to said fund shall be voluntary.

Section 9. The Commonwealth of Pennsylvania shall be reimbursed to the extent of one-half of the amount paid by the Commonwealth into the contingent reserve fund and the State annuity reserve fund number two on account of employes of each other employer, by payments into its treasury made directly by such employer, or indirectly from moneys otherwise belonging to such employer. To facilitate the payment of amounts due from the treasurer of any employer to the treasurer of the Commonwealth, on account of the retirement system, and to permit the exchange of credits between the treasurer of the Commonwealth and the treasurer of any employer, the State Superintendent of Public Instruction and the State Treasurer are hereby authorized and empowered to cause to be deducted, and paid into or retained in the State Treasury, from the

amount of any moneys due to any employer on account of any appropriation for schools or other purposes, the amount due to the State Treasury from such employer, in accordance with the provisions of this act. Corresponding amounts, which would be otherwise transferred to the treasury of the Commonwealth from the treasurer of such employer, may be credited to the accounts of the employer to which the moneys withheld by the Commonwealth were payable.

STATE GUARANTY

Section 10. Regular interest charges payable, the creation and maintenance of reserves in the contingent reserve fund, and the maintenance of employes' annuity reserves and State annuity reserves as provided for in this act, and the payment of all retirement allowances and other benefits granted by the retirement board under the provisions of this act, are hereby made obligations of the Commonwealth of Pennsylvania. All income, interest, and dividends derived from deposits and investments authorized by this act shall be used for the payment of the said obligations of the Commonwealth. The retirement board shall prepare, and submit to the Legislature, on or before the thirty-first day of January in each odd-numbered year, an itemized estimate of the amounts necessary to be appropriated by the Commonwealth to the various funds to complete the payment of the said obligations of said Commonwealth accruing during the biennium beginning July first of the same year; and it shall be the duty of said Legislature to make an appropriation sufficient to provide for such obligations of the Commonwealth; and the amounts so appropriated shall be included in the general appropriation bill, and shall be paid by the Treasurer of the Commonwealth into the various funds created by this act. For the biennium beginning July first, nineteen hundred seventeen, there is hereby appropriated to the expense fund created by section eight, paragraph two of this act, such sum, not to exceed twenty thousand dollars, as shall be certified to the Treasurer of the Commonwealth by the retirement board as necessary to meet the expenses of establishing the retirement system constituted by the provisions of this act. For said biennium there is hereby appropriated, and the Treasurer of the Commonwealth of Pennsylvania is hereby authorized and directed to pay into State annuity reserve fund number two, the amounts which shall become due in such period from the Commonwealth of Pennsylvania to such fund under the provisions of section eight, paragraph five of this act.

SERVICE ALLOWANCE

Section 11. In computing the length of service of a contributor for retirement purposes, under the provisions of this act, full credit shall be given to each contributor by the retirement board for each school year of service as an employee, as defined in section one, paragraph seven, of the act. Under such rules and regulations as the retirement board shall adopt, each employe shall file with the retirement board a detailed statement of all such service rendered by him or her. As soon as practicable thereafter the retirement board shall verify such statement as to prior service, and shall issue to each employee a certificate certifying to the aggregate length of his or her prior service. Such certificate shall be final and conclusive as to his or her prior service, unless thereafter modified: (a) by the retirement board, upon application by employe; or (b) by the State Superintendent of Public Instruction, upon application by the employee or by the retirement board; provided such application for modification be made to said State Superintendent of Public

Instruction within one year after the issuance of a certificate or a modified certificate by the retirement board. A certificate for prior service issue to a present employe shall certify the total number of completed years of prior service allowance for said present employe to and including the thirtieth day of June, nineteen hundred nineteen. The time during which an employe is absent without pay shall not be counted in computing the prior service, the total service or the average salary of a contributor, unless allowed by the employer by whom said contributor was employed at the time said leave of absence was granted, and, further, unless said allowance is approved by the retirement board.

WITHDRAWAL

Section 12. Should a contributor, by resignation or dismissal, or in any other way than by death or retirement, separate from the school service, he or she shall be paid on demand: (a) the full amount of the accumulated deductions standing to the credit of his or her individual account in the annuity savings fund, or, in lieu thereof, should he or she so elect, (b) an annuity or a deferred annuity, which shall be the actuarial equivalent of said accumulated deductions. His or her membership in the retirement association shall thereupon cease.

2. Should an employe so separated from the school service, return within three years, and restore to the annuity savings fund his or her accumulated deductions, as they were at the time of his or her separation, the annuity rights forfeited by him or her at that time shall be restored.

3. Should a contributor die before retirement, his or her accumulated deductions shall be paid to his or her estate, or to such person as he or she shall have nominated by written designation duly executed and filed with the retirement board.

DISABILITY RETIREMENT

Section 13. Retirement upon disability shall be made and discontinued as follows:—

1. Upon the application of a contributor who is an employe, or of one acting in his or her behalf, or upon the application of the employer of a contributor, the retirement board shall retire said contributor on a disability allowance if he or she is under the age of sixty-two years, and on a superannuation allowance if he or she has attained or passed such age; provided the physician or physicians designated by said board, after a medical examination of said contributor made at the place of residence of said contributor, or at a place mutually agreed upon, shall certify to the retirement board that said contributor is physically or mentally incapacitated for the performance of duty, and that said contributor ought to be retired; and provided further, that said contributor has had ten or more school years of school service.

2. Once each year the retirement board may require any disability annuitant, while still under the age of sixty-two years, to undergo medical examination by a physician or physicians designated by the retirement board, said examination to be made at the place of residence of said beneficiary, or other place mutually agreed upon. Should such physician or physicians thereupon report and certify to the retirement board that such disability beneficiary is no longer physically or mentlaly incapacitated, for the performance of duty, or that such disability beneficiary is able to engage in a gainful occupation, and should the retirement board concur in such report, then the amount of the State annuity shall be discontinued, or reduced to an amount that shall be not in excess of the amount by which the amount of the last year's salary of the beneficiary,

as an employe, exceeds the present earning capacity of the contributor.

3. Should any disability annuitant, while under the age of sixty-two years, refuse to submit to at least one medical examination in any year by a physician or physicians designated by the retirement board, his or her State annuity shall be discontinued until the withdrawal of such refusal, and, should such refusal continue for one year, all his or her rights in and to the State annuity constituted by this act shall be forfeited.

4. Upon application of any beneficiary under the age of sixty-two years, drawing a retirement allowance under the provisions of this act, said beneficiary may be restored to active service by the employer by whom he or she was employed at the time of his or her retirement. Upon the restoration of a beneficiary to active service, his or her retirement allowance shall cease.

ALLOWANCE ON DISABILITY RETIREMENT

5. On retirement for disability, a contributor who is an employe shall receive a retirement allowance which shall consist of—

(a) An employe's annuity, which shall be the actuarial equivalent of his or her accumulated deductions; and

(b) A State annuity which, together with the employe's annuity, shall be sufficient to produce a retirement allowance of one-ninetieth of his or her final salary multiplied by the number of his or her years of service; but, in any case not less than thirty per centum of said final salary, except that in case thirty per centum of said final salary shall exceed eight-ninths of the rate of retirement allowance to which the employe might have been entitled had retirement been deferred until age sixty-two, then the State annuity granted shall be such as to make the rate of the total retirement allowance equal to eight-ninths of the rate of allowance to which the employe might have been entitled had retirement been deferred until age sixty-two.

SUPERANNUATION RETIREMENT

Section 14. Retirement for superannuation shall be as follows:

1. Any contributor who is an employe sixty-two years of age or older may retire for superannuation by filing with the retirement board a written statement, duly attested, setting forth at what time, subsequent to the execution of said application, he or she desires to be retired. Said application shall retire said contributor at the time so specified, or, in the discretion of the retirement board, at the end of the school term in which the time so specified occurs.

2. Each and every contributor who has attained or shall attain the age of seventy years shall be retired by the retirement board, for superannuation, forthwith, or at the end of the school term in which said age of seventy years is attained.

ALLOWANCE ON SUPERANNUATION RETIREMENT

3. On retirement for superannuation, a contributor who is an employe shall receive a retirement allowance which shall consist of—

(a) A teacher's annuity, which shall be the actuarial equivalent of his or her accumulated deductions; and

(b) A State annuity of one one-hundred-sixtieth (1-160) of his or her final salary for each year of service prior to the age of sixty-two years; and

(c) In addition thereto, if a present employe, a further State annuity of one one-hundred-sixtieth (1-160) of his or her final salary for each year of prior service, as certified to said present employe in the certificate

issued to him or her by the retirement board under the provisions of section ten of this act; but in no event shall the total State annuity exceed fifty per centum of his or her final salary.

OPTIONS

Section 15. At the time of his or her retirement any contributor may elect to receive his or her benefits in a retirement allowance, payable throughout life; or he or she may, on retirement, elect to receive the actuarial equivalent at that time of his employe's annuity, his or her State annuity, or his retirement allowance, in a lesser employe's annuity, or a lesser State annuity, or a lesser retirement allowance, payable throughout life; with the provisions that:—

Option 1.—If he or she die before he has received in payments the present value of his or her employe's annuity, his State annuity, or his or her retirement allowance as it was at the time of his retirement, the balance shall be paid to his or her legal representatives, or to such person having an insurable interest in his or her life, as he or she shall nominate by written designation, duly acknowledged, and filed with the retirement board, at the time of his or her retirement.

Option 2.—Upon his or her death, his employe's annuity, his State annuity, or his or her retirement allowance shall be continued throughout the life of and paid to such person, having an insurable interest in his or her life, as he or she shall nominate by written designation, duly acknowledged, and filed with the retirement board, at the time of his or her retirement.

Option 3.—Upon his or her death, one-half of his or her employe's annuity, his or her State annuity, or his or her retirement allowance shall be continued throughout the life of and paid to such person, having an insurable interest in his or her life, as he or she shall nominate by written designation, duly acknowledged, and filed with the retirement board, at the time of his or her retirement.

Option 4.—Some other benefit or benefits shall be paid to either the contributor or such other person or persons as he or she shall nominate; provided such other benefit or benefits shall, together with such lesser employe's annuity, or lesser State annuity, or lesser retirement allowance, be certified by the actuary of the retirement board to be of equivalent actuarial value, and shall be approved by the retirement board.

MONTHLY PAYMENTS

Section 16. An employe's annuity, a State annuity, or a retirement allowance, granted under the provisions of this act, shall be paid in equal monthly instalments, and shall not be increased, decreased, revoked, or repealed except as otherwise provided in this act.

STATE SUPERVISION

Section 17. The various funds created by this act shall be subject to the supervision of the State Department of Insurance.

EXEMPTIONS FROM EXECUTION

Section 18. The right of a person to an employe's annuity, a State annuity, or retirement allowance, to the return of contributions, any benefit or right accrued or accruing to any person under the provisions of this act, and the moneys in the various funds created under this act, are hereby exempt from any State or municipal tax, and exempt from levy and sale, garnishment, attachment, or any other process whatsoever, and

shall be unassignable except as in this act specifically otherwise provided.

Section 19. Any person who shall knowingly make any false statement, or shall falsify or permit to be falsified any record or records of this retirement system, in any attempt to defraud such system as a result of such act, shall be guilty of a misdemeanor, and shall be punishable for such under the laws of the Commonwealth of Pennsylvania. Should any such change in records or any mistake in records result in any employe or beneficiary receiving from the retirement system more or less than he or she would have been entitled to receive had the records been correct, then, on the discovery of any such error, the retirement board, shall correct such error, and, so far as practicable, shall adjust the payments which may be made for and to such person in such a manner that the actuarial equivalent of the benefit to which he or she was correctly entitled shall be paid.

Section 20. This act shall take effect immediately.

Approved, the 18th day of July, A. D. 1917.

(d) Connecticut

Laws of 1917, Chapter 411—An Act to Establish a Retirement System for Public School Teachers

CONSTRUCTION

Section 1. The following words and phrases as used in this act, unless a different meaning is plainly required by the context, shall have the following meanings:

(1) "Retirement system" shall mean the arrangement provided in this act for payment of annuities and pensions to teachers.

(2) "Annuities" shall mean payments for life derived from contributions from teachers.

(3) "Pensions" shall mean payments for life derived from contributions from the State.

(4) "Teacher" shall mean any teacher, principal, supervisor, or superintendent engaged in the service of the public schools.

(5) "Public school" shall mean any day school conducted within this State under the order and superintendence of a duly elected school committee or board of education, including the state board of education.

(6) "Regular interest" shall mean interest, at the rate determined by the retirement board, and shall be substantially that which is actually earned by the funds of the retirement association, compounded annually on the last day of December of each year.

(7) "Retirement board" shall mean the teachers' retirement board, as provided in section four of this act.

(8) "Retirement association" shall mean the teachers' retirement association, as provided in section three of this act.

(9) "Expense fund" shall mean the fund provided for in paragraph numbered one in section five of this act.

(10) "Annuity fund" shall mean the fund provided for in paragraph numbered two in section five of this act.

(11) "Pension fund" shall mean the fund provided for in paragraph numbered three in section five of this act.

(12) "School year" shall mean the twelve months from the first day of July of any year to the thirtieth day of June next succeeding.

(13) "Assessments" shall mean the annual payments to the annuity fund by members of the association.

(14) The masculine pronoun shall be held to refer to either sex or both sexes as the context may require.

ESTABLISHMENT OF A TEACHERS' RETIREMENT SYSTEM

Section 2. A teachers retirement system shall be established on the first day of July, nineteen hundred and seventeen.

TEACHERS' RETIREMENT ASSOCIATION

Section 3. A teachers' retirement association shall be organized among the teachers in the public schools as follows:

(1) All teachers who enter the service of the public schools for the first time on or after July first, nineteen hundred and seventeen, shall become thereby members of the association.

(2) All teachers, who shall have entered the service of the public schools before June thirtieth, nineteen hundred and seventeen, may at any time between July first, nineteen hundred and seventeen, and September thirtieth, nineteen hundred and seventeen, upon application in writing to the secretary of the state board of education, become members of the retirement association. Any such teacher failing to do so may thereafter become a member of the retirement association by paying an amount equal to the total assessments, together with regular interest thereon, that he would have paid if he had joined the retirement association on September thirtieth, nineteen hundred and seventeen.

STATE TEACHERS' RETIREMENT BOARD

Section 4. (1) The management of the retirement system is hereby vested in the teachers' retirement board, which shall consist of five members.

(2) The insurance commissioner for the state, the bank commissioner for the state and the secretary of the state board of education shall be members of this board.

(3) As soon as possible after the passage of this act and not later than July first, nineteen hundred and seventeen, the governor shall appoint as members of the retirement board two persons from the teaching force of the state, one to serve until July first, nineteen hundred and nineteen, and one to serve until July first, nineteen hundred and twenty-one.

(4) On or before July first, nineteen hundred and nineteen and biennially thereafter the members of the retirement association shall elect from among their number in a manner to be prescribed by the retirement board one person to serve upon the retirement board for a term of four years.

(5) If a vacancy should occur in the positions filled by members of the retirement association, the retirement board shall elect a member of the retirement association to fill the unexpired term.

(6) The members of the retirement board shall serve without compensation, but they shall be reimbursed from the expense fund of the retirement association for any expenditures or loss of salary or wages which they may incur through serving on this board. All claims for reimbursement on this account shall be subject to the approval of the governor.

(7) The retirement board shall have power to make by-laws and regulations not inconsistent with the provisions of this act; and to employ a secretary, who shall give a surety bond in such amount as the board shall approve, and clerical and other assistance as may be necessary. The salaries shall be paid by the board with the approval of the governor.

(8) The retirement board shall provide for the payment of retirement allowances and such other expenditures as are required by the provisions of this act.

(9) The retirement board shall adopt for the retirement system one or more mortality tables, and may from time to time modify such tables or prescribe other tables to represent more accurately the expense of the retirement system.

(10) The retirement board shall perform such other functions as are required for the execution of the provisions of this act.

CREATION OF FUNDS

Section 5. The funds of the retirement system shall consist of an expense fund, an annuity fund, and a pension fund.

(1) The expense fund shall consist of such amounts as shall be appropriated by the general assembly from year to year on estimates submitted by the retirement board to defray the expenses of the administration of this act, exclusive of the payment of retirement allowances.

(2) The annuity fund shall consist of assessments paid by members of the retirement association, and interest derived from investments of the annuity fund. Each member of the retirement association shall pay into the annuity fund in the manner provided in section nine, paragraph five, of this act five per cent of his annual salary: provided, however, that when the total sum of assessments on the salary of any member at the rate of five per cent would amount to more than one hundred dollars or less than twenty-five dollars for any school year such member shall in lieu of assessments at the regular rate be assessed one hundred dollars a year or twenty-five dollars a year, as the case may be, payable in equal instalments to be assessed for the number of months during which the schools of the community in which such member is employed are commonly in session. Any member of the retirement association who shall for thirty years have paid regular assessments to the annuity fund as herein provided, shall be exempt from further assessments; but such member may thereafter if he so elects, continue to pay his assessments to the fund. No member so electing shall pay further assessments after the total sum of assessments paid by him shall at any time have amounted with regular interest, to a sum sufficient to purchase an annuity of five hundred dollars at age sixty; and interest thereafter accumulating shall be paid to the member at the time of his retirement.

(3) The pension fund shall consist of such amounts as shall be appropriated by the general assembly from time to time on estimates submitted by the retirement board, for the purpose of paying the pensions provided for in this act.

PAYMENT OF RETIREMENT ALLOWANCES

Section 6. (1) Any member of the retirement association may retire from service in the public schools on attaining the age of sixty years or on the completion of thirty-five years of service in the public schools of the state.

(2) Any member of the retirement association, if incapable of rendering satisfactory service as a teacher, may, with the approval of the retirement board, be retired by the employing school board on attaining the age of fifty-five years or at any time thereafter.

(3) Any member of the retirement association on attaining the age of seventy years, shall be retired from service in the public schools; provided, however, that if the employing committee shall so request in writing, the retirement board may permit the employment of such member beyond the age of seventy years; and provided further, that on the retirement of such member he shall receive from the state the pension to which he would have been entitled at age seventy.

(4) A member of the retirement association after his retirement under the provisions of paragraphs one, two and three of this section, shall be entitled to receive from the annuity fund, as he shall elect at the time of his retirement, on the basis of tables adopted by the retirement board: (a) an annuity, payable in quarterly payments, to which the sum of his assessments under section five, paragraph two, with regular interest thereon, shall entitle him; or (b) an annuity of less amount, as determined by the retirement board for the annuitants electing such option, payable in quarterly payments, with the provision that on the death of the annuitant, the annuity shall be continued to and throughout the life of such person as he shall nominate by written designation duly acknowledged and filed with the retirement board at the time of his retirement.

(5) The retirement board may offer other benefits of equal value with the benefits herein provided and the contributor retiring may accept either the benefits herein provided or one of said alternative benefits in lieu thereof.

(6) Any member of the retirement association receiving payments of an annuity as provided in paragraphs four and five of this section shall, if not rendered ineligible therefor by the provisions of section eleven of this act, receive with each quarterly payment of his annuity an equal amount to be paid from the pension fund as directed by the retirement board.

(7) Any teacher who shall have become a member of the retirement association under the provisions of paragraph numbered two of section three, and who shall have served fifteen years or more in the public schools of the state, not less than five of which shall immediately precede retirement, shall on retiring as provided in paragraphs one, two and three of this section, be entitled to receive a retirement allowance as follows: (a) such annuity and pension as may be due under the provisions of paragraphs, four, five and six of this section; (b) an additional pension to such an amount that the sum of this additional pension and the pension provided in paragraph six of this section shall equal the pension to which he would have been entitled under the provisions of this act if he had paid thirty assessments on his average yearly wage for the five years preceding his retirement with interest thereon at three percent compounded annually; provided (1) that if his term of service in the state shall have been over thirty years the thirty assessments shall be reckoned as having begun at the time of his entering service and as drawing interest at three percent compounded annually until the time of retirement; and further provided, (2) that if the sum of such additional pension together with the annuity and pension provided for by paragraphs four, five and six of this section is less than three hundred dollars in any one year, an additional sum sufficient to make an annual retirement allowance of three hundred dollars shall be paid from the pension fund.

(8) If at any time it is impossible or impracticable to consult the original records as to wages received by a member during any period, the retirement board shall determine the pension to be paid under paragraph (7) (b) of this section in accordance with the evidence they may be able to obtain.

WITHDRAWAL AND REINSTATEMENT

Section 7 (1) Any member of the retirement association withdrawing from service in the public schools before becoming eligible to retirement shall be entitled to receive from the annuity fund all amounts contributed as assessments, together with regular interest thereon, in the manner hereinafter provided.

(2) If such withdrawal shall take place before ten annual assessments

have been paid, such member shall receive the total amount to which he is entitled as determined by the retirement board under the provisions of this act in one sum or in four quarterly payments as the retirement board may elect.

(3) If such withdrawal shall take place after ten annual assessments have been paid, the amount so refunded shall be in the form of such annuity for life based on the contributions of such member, together with regular interest thereon, as may be determined by the retirement board according to its annuity tables, or in four annual instalments, as such member may elect.

(4) If a member of the association withdrawing and receiving payments in accordance with paragraphs two and three of this section, shall die before the amount of such payments equals the amount of his contributions to the annuity fund with regular interest, the difference between the amount of such payments and the amount of his contributions with regular interest shall be paid to his legal representatives; if, however, no demand shall be made on the retirement board within six months following the death of such member for the payment of the sums due under this paragraph, such sums, not exceeding one hundred dollars in any case may then be paid to such person or persons as are apparently entitled to the estate, and such payment shall be a bar to recovery by any other person.

(5) Any member of the retirement association who shall have withdrawn from service in the public schools shall, on being re-employed in the public schools, be reinstated in the retirement association in accordance with such plans for reinstatement as the retirement board shall adopt.

(6) If a member of the retirement association shall die before retirement, the full amount of his contributions to the annunity fund with regular interest to the day of his death shall be paid to his legal representatives; if, however, no demand shall be made on the retirement board within six months following the death of such member, for the payment of the sums due under this paragraph such sums not exceeding one hundred dollars in any case, may then be paid to such person or persons as are apparently entitled to the estate, and such payment shall be a bar to recovery by any other person.

TAXATION, ATTACHMENTS AND ASSIGNMENTS

Section 8. That portion of the salary or wages of a member deducted or to be deducted under this act, the right of a member to an annuity or pension, and all his rights in the funds of the retirement system, shall be exempt from taxation, and from the operation of any laws relating to bankruptcy or insolvency, and shall not be attached or taken upon execution or other process of any court. No assignment of any right in, or to said funds shall be valid. The funds of the retirement system, so far as invested in personal property, shall be exempt from taxation.

DUTIES OF THE SCHOOL COMMITTEE

Section 9. (1) The school committee or board of education of each town, city, or district in the state shall, before employing in any teaching position any person to whom this act may apply, notify such person of his duties and obligations under this act as a condition of his employment.

(2) On or before October first of each year the school committee or board of education of each town, city and district in the state shall certify to the retirement board the names of all teachers to whom this act shall apply.

(3) The school committee or board of education of each town, city, and

district in the state shall, on the first day of each calendar month, notify the retirement board of the employment of new teachers, removals, withdrawals, and changes in salary of teachers that shall have occurred during the month preceding.

(4) Under the direction of the retirement board the school committee or board of education of each town, city and district in the state shall furnish such other information as the board may require relevant to the discharge of the duties of the board.

(5) The school committee or board of education of each town, city and district in the state shall, as directed by the retirement board, deduct from the amount of the salary due each teacher employed in the public schools of such town, city or district, such amounts as are due as contributions to the annuity fund as prescribed in this act, shall send to the treasurer of said town, city or district a statement as voucher for such deductions and shall send a duplicate statement to the secretary of the retirement board.

(6) The school committee or board of education of each town, city and district in the state shall keep such records as the retirement board may require.

CUSTODY AND INVESTMENT OF FUNDS

Section 10. (1) The treasurer of each town, city and district in the state on receipt from the school committee or board of education of the voucher for deductions from the teachers' salaries provided for in section nine shall transmit, monthly, the amounts specified in such voucher to the secretary of the retirement board.

(2) The secretary of the retirement board shall monthly pay to the treasurer of the state all sums collected by him under the provisions of paragraph one of this section.

(3) All funds of the retirement system shall be in custody and charge of the treasurer of the state and the treasurer shall invest such funds as are not required for current disbursements in accordance with the laws of the state governing the investment of savings banks funds. He may, whenever he sells securities, deliver the securities so sold upon receiving the proceeds thereof, and may execute any or all documents necessary to transfer the title thereto.

(4) The treasurer of the state shall make such payments to members of the retirement association from the annuity fund and pension fund as the retirement board shall order to be paid in accordance with sections six and seven of this act.

(5) On or before the third Wednesday in January, the treasurer of the state shall file with the insurance commissioner for the state, and with the secretary of the retirement board, a sworn statement exhibiting the financial condition of the retirement system on the thirty-first day of the preceding December and its financial transactions for the year ending at such date. Such statement shall be in the form prescribed by the retirement board and approved by the insurance commissioner.

MEMBERSHIP IN OTHER RETIREMENT ASSOCIATIONS

Section 11. (1) No person required to become a member of the association under the provisions of paragraph numbered one of section three of this act shall be entitled to participate in the benefits of any other teachers' retirement system, supported in whole or in part by funds raised by taxation.

(2) No member of the retirement association shall be eligible to receive

any pension as described in section six of this act, who is at the time in receipt of a pension paid from funds raised in whole or part by taxation.

REIMBURSEMENT OF CITIES AND TOWNS

Section 12. (1) Whenever, after the first day of July, nineteen hundred and seventeen, a town, city or district retires a teacher who is not eligible to a pension under the provisions of paragraph numbered six in section six of this act, and pays to such teacher a pension and the school committee or board of education of said town, city or district certifies under oath to the retirement board to the amount of said pension, said town or city shall be reimbursed therefor biennially by the state: provided, that no such reimbursement shall be in excess of the amount as determined by the retirement board, to which said teacher would have been entitled as a pension, had he become a member of the retirement association under the provisions of paragraph numbered two in section three of this act.

(2) On or before the first Wednesday of January, nineteen hundred and nineteen and biennially thereafter the retirement board shall present to the general assembly, a statement of the amount expended during the two years ending on the preceding first day of July by cities and towns in the payment of pensions under the provisions of the preceding paragraph, for which such cities and towns should receive reimbursement. On the basis of such a statement, the general assembly may make an appropriation for the reimbursement of such cities and towns up to such first day of July.

NEW JERSEY

Laws of 1919. Chapter 80 (e), an Act to amend "An act to establish a thorough and efficient system of free public schools, and to provide for the maintenance, support and management thereof," approved October nineteenth, one thousand nine hundred and three.

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey.

PREAMBLE

WHEREAS, In the advancement of public policy there has been established in this State a retirement fund to which public school teachers are required to contribute and which was designed to provide an annuity to any member disabled after twenty or more years of service, and the State has provided a non-contributory pension for any teacher who teaches thirty-five years; and

WHEREAS After two years of investigation conducted with the assistance of pension experts and actuaries employed by it, the Pension and Retirement Fund Commission created by the act of the Legislature, J. R. 11, P. L. 1917, and J. R. 3, P. L., 1918, has found that the two retirement systems conflict with each other in their operation and thereby create embarrassment in the administration of school affairs, and in many instances give double retirement benefits to the teachers, amounting on an average to more than the salary received by the teachers when in active service; and

WHEREAS, The actuary employed by the State Teachers' Association and the actuary of the commission both report that the liabilities of the Teachers' Retirement Fund are far in excess of its present and prospective assets, which indicates that the contributions of present teachers are being used for the payment of annuities to teachers now retired,

thereby exhausting the funds which should be kept in reserve for the benefit of present teachers, with the result that a majority of those now contributing will be unable to receive the benefits promised under the fund; and

WHEREAS, Inasmuch as the State of New Jersey by legislative enactment has compelled its teachers to contribute to this fund which is in an unsound financial condition, it is the duty of the Legislature to correct as far as possible the injustice and embarrassment occasioned by such conditions, which are detrimental to the welfare of the teachers and the school system; and

WHEREAS, It is recognized as an established State policy that the teachers of our public schools should be given protection against disability and old age and that such protection should be provided by a retirement system established on a scientific basis that will truly advance the best interests of our educational system and protect the future well being of the teachers; therefore,

1. The act to which this act is an amendment is hereby amended by the addition of a new article, which shall be known as Article XXVIII, and which shall contain sections 247 to 256, inclusive.

ARTICLE XXVIII

TEACHERS' PENSION AND ANNUITY FUND

DEFINITIONS

247. (1) The following words and phrases used in this act shall have the following meanings unless a different meaning is plainly required by the context:

(2) "Retirement System," shall mean the "Teachers' Pension and Annuity Fund," created by section two hundred and forty-eight of this article.

(3) "Teachers' Retirement Fund" shall mean the Teachers' Retirement Fund of the State of New Jersey as created by chapter 32, P. L. 1896; chapter 178, P. L. 1899; chapter 96, P. L. 1900; chapter 36, P. L. 1902; chapter 1, Second Special Session P. L. 1903; chapter 95, P. L. 1905; chapter 314, P. L. 1906; chapter 139, P. L. 1907, and amendments thereto and supplements thereof.

(4) "Board of Trustees" shall mean the board provided for in section two hundred and fifty-five of this article.

(5) "Commissioner of Education" shall mean the Commissioner of Education of the State of New Jersey.

(6) "Employer" shall mean the State of New Jersey, or the school district, normal school district, board or other agency of and within the State by which the teacher is paid.

(7) "Teacher" shall mean any regular teacher, special teacher, helping teacher, teacher-clerk, principal, vice-principal, supervisor, supervising principal, director, superintendent, city superintendent, assistant city superintendent, county superintendent, State commissioner or assistant commissioner of education and other member of the teaching or professional staff of any class, public school, high school, normal school, model school, training school, vocational school, truant reformatory school, or parental school, and of any and all classes or schools within the State of New Jersey conducted under the order and superintendence, and wholly or partly at the expense of the State Board of Education, of a duly elected or appointed board of education, board of school directors, or board of trustees of the State or of any school district or normal school district thereof, and any such person under contract or engagement to perform one

or more of these functions; *provided,* that no person shall be deemed a teacher within the meaning of this article who is a substitute teacher or is a teacher not regularly engaged in performing one or more of these functions as a full-time occupation outside of vacation periods. In all cases of doubt the board of trustees shall determine whether any person is a teacher as defined in this article.

(8) "Present-entrant" shall mean any teacher who is a member of the retirement system under the provisions of class B, C, D and E under sub-section (2) of section two hundred and forty-nine of this article.

(9) "New-entrant" shall mean any teacher who is a member of the retirement system, except a present entrant.

(10) "Contributor" shall mean any person who has an account in the annuity savings fund.

(11) "Beneficiary" shall mean any person in receipt of a retirement allowance or other benefit as provided in this article.

(12) "School Service" shall mean any service as a teacher as defined by sub-section (7) of this section.

(13) "School Year" shall mean the official school year of the school district or the institution in which a teacher is employed.

(14) "Regular Interest" shall mean interest at four per centum per annum, compounded annually.

(15) "Accumulated Deductions" shall mean the total of the amounts deducted from the salary of a contributor and credited to his individual account in the annuity savings fund together with the interest thereon. Regular interest shall be computed and allowed on such total or part thereof when used for the purchase from the retirement system of a retirement annuity. Interest at the rate of three and one-half per centum per annum, compounded annually, shall be computed and paid on such total amounts or part thereof when withdrawn for any other purpose.

(16) "School Apportionment Fund" shall mean the moneys retained in the State Treasury to be apportioned to the several counties of the State by the Comptroller for school purposes, as defined in chapter 146, P. L. 1906, and chapter 65, P. L. 1909.

(17) "Average Salary" shall mean the average annual salary earnable by and as a teacher for the last five years preceding retirement.

(18) "Pension" shall mean annual payments for life derived from the pension fund or from the pension reserve fund as provided in this article. All pensions shall be paid in monthly installments.

(19) "Annuity" shall mean payments for life derived from contributions made by a contributor as provided in this article. All annuities shall be paid in monthly installments.

(20) "Retirement Allowance" shall mean the pension plus the annuity.

(21) "Pension Reserve" shall mean the present value computed on the basis of such mortality tables as shall be adopted by the board of trustees, with regular interest of the future payments to be made on account of any pension granted to a member.

(22) "Annuity Reserve" shall mean the present value commuted on the basis of such mortality tables as shall be adopted by the board of trustees with regular interest of the future payments to be made on account of any annuity granted to a member.

ESTABLISHMENT OF SYSTEM

248. (1) A retirement system for public school teachers is hereby created and established to be known as the "Teachers' Pension and Annuity Fund," and shall include the several funds created and placed

under the management of the board of trustees as provided by this article for the purpose of paying retirement allowances and other benefits hereinafter provided to or on account of the teachers who become members of said system.

(2) The retirement system so created shall have the powers and privileges of a corporation, and under its corporate name all its business shall be transacted, all funds invested, all warrants for money drawn and payments made, and all cash and securities and other property shall be held.

MEMBERSHIP

249. (1) Membership in the retirement system shall begin not earlier than the first day of September, nineteen hundred and nineteen.

(2) The membership of the retirement system shall consist of the following classes of teachers:

Class A. All persons who become teachers after the first day of September, nineteen hundred and nineteen, and whose appointment is made subsequent to the passage of this act, shall become members of the retirement system by virtue of their appointment as teacher; *provided*, that any person who may become a teacher after September first, nineteen hundred and nineteen, who before the passage of this act shall have made an agreement to teach in the schools of this State as a consideration for the instruction received in any normal school of the State shall not be compelled during the life of such agreement to become a member of the retirement system when he shall enter the service as a teacher, but shall, however, become a member after the expiration of such agreement by virtue of any subsequent appointment as teacher, but he may become a member at any time by filing an application as hereinafter described; *provided, further*, that any person who shall have signed a contract for the position of a teacher prior to the passage of this act, whose services thus contracted for shall extend beyond the first day of September, nineteen hundred and nineteen, shall not be compelled to become a member of the retirement system when he shall enter the service under such contract as a teacher, but he may do so by filing an application as hereinafter described.

Class B. All teachers in the service on September first, nineteen hundred and nineteen, who are not members of the Teachers' Retirement Fund at the time of the passage of this act, who, during their service as a teacher on or before the first day of September, nineteen hundred and twenty, shall file with the board of trustees an application for membership.

Class C. All teachers in the service on September first, nineteen hundred and nineteen, who became members of the Teachers' Retirement Fund by virtue of their appointment as teacher since January first, nineteen hundred and eight, who during their service as a teacher on or before the first day of September, nineteen hundred and twenty, shall file with the board of trustees an application for membership.

Class D. All teachers in the service on September first, nineteen hundred and nineteen, who became members of the Teachers' Retirement Fund before the first day of January, nineteen hundred and eight, and who during their service as a teacher on or before the first day of September, nineteen hundred and twenty, shall file with the board of trustees an application for membership.

Class E. All teachers, who do not come under the provisions of class A, B, C or D, who within a year after their appointment or after the passage of this act, shall file with the board of trustees an application for membership.

(3) Application for membership under class B, C, D and E, and the certificate of enrollment in case of class A member, shall be in such form and contain such information as the board of trustees shall designate, and furthermore, the application for membership in case of class C, D and E shall contain a waiver of all rights and privileges as a member or prospective beneficiary of the Teachers' Retirement Fund.

The board of trustees shall file one copy of the application for membership or certificate of enrollment in the retirement system as a permanent record in its office, and one copy with the employer of the applicant, which shall constitute a notice to such employer to deduct the percentage of salary as defined by this article.

(4) The board of trustees may, in its discretion, extend the period for filing any application for membership provided for herein, but no extension shall carry the date beyond the year nineteen hundred and twenty three.

(5) Any teacher who does not elect to become a member while eligible to membership under the provisions as to class B, C, D or E, and who is not eligible to membership under the provisions as to class A, may become a member thereafter upon application in accordance with the rules and regulations of the board of trustees, but with a limited allowance for prior service as hereinafter provided for new-entrants.

(6) This board of trustees may, in its discretion, deny the right to become members to any class of teachers whose compensation is only partly paid by the State, or who are serving on a temporary or any other than a per annum basis, and it may also, in its discretion, make optional with members in any such class their individual entrance into membership.

(7) The membership of any person in the retirement system shall cease if he shall be continuously absent without pay for a period of more than two years, or if in any five-year period after he last became a member, he shall render less than two years of school-service, or upon the withdrawal by a contributor of his accumulated deductions as provided in this article or upon retirement on a pension, or at death but not otherwise, except as provided in this article.

SERVICE CREDITABLE

250. (1) In addition to the application required in subsection (3) of section two hundred and forty-nine of this article each present-entrant shall file a detailed statement under oath of all school-service and service in a similar capacity in other States rendered by him prior to the first day of September, nineteen hundred and nineteen, for which he claims credit, and of such other facts as the board of trustees may require for the proper operation of the retirement system.

(2) Each new-entrant shall file a detailed statement of school-service and service in a similar capacity in other States rendered by him prior to so becoming a member for which he desires credit and on account of which he desires to contribute and of such other facts as the board of trustees may require for the proper operation of the system.

(3) The board of trustees shall fix and determine by appropriate rules and regulations how much service in any year is the equivalent of a year of service, but in computing such service, or in computing average compensation, it shall credit no time during which a member was absent without pay for a period of more than a month's duration, nor shall more than one year of service be credited for all service in any calendar year.

(4) Subject to the above restrictions and to such other rules and regulations as the board of trustees shall adopt, said board shall verify as soon as practicable the statement of service submitted, and shall issue to the member a prior-service certificate certifying to the aggregate length of such prior service.

(5) In such prior-service certificate, a present-entrant shall be credited up to the nearest number of years and months with all service not exceeding thirty-five years, which he rendered as a teacher prior to September first, nineteen hundred and nineteen, including not more than ten years of service in a similar capacity in other States.

(6) In his prior-service certificate, a new-entrant shall be credited in full up to the nearest number of years and months, but not exceeding ten years, with all service rendered by him as a teacher in public schools in or outside of New Jersey prior to becoming a member, for which he desires credit and on account of which he desires to contibute.

(7) So long as membership continues, a prior-service certificate shall be final and conclusive for retirement purpose as to such service, unless thereafter modified by the board of trustees upon the application made by the member within one year after the date of issuance or modification of a prior-service certificate or upon the discovery by the board of trustees of an error or fraud. When membership ceases, such certificate shall be void, but upon membership being resumed the prior-service certificate shall be restored for the same number of years of prior service as were previously credited less a deduction of one year for each year during which the teacher was not a member of the retirement system since the issuance of the initial prior-service certificate.

(8) At retirement the total service credited a member shall consist of the service rendered by him during his membership, and if he has a prior-service certificate which is in full force and effect, for all service certified on such certificate.

BENEFITS

Superannuation Retirement.

251. (1) A member who has attained the age of sixty-two (62) may retire upon his request or, upon the request of his employer, shall be retired from the service if a written statement duly attested is filed by him or by his employer with the board of trustees setting forth at what time subsequent to the execution and filing thereof he or his employer desires such retirement. The board of trustees shall retire said member at the time specified or at such other time within thirty days after the date so specified as the board of trustees may find advisable. Any present-entrant who is not covered by the tenure of office law who prior to the first day of November, one thousand nine hundred and nineteen, shall become a member of the retirement system, and who shall be credited in his prior-service certificate with thirty-five or more years of service, who shall lose his position before attaining the age of sixty-two (62) years, shall be retired on a total retirement allowance of one-half of his average salary.

(2) After the first day of January of the year nineteen hundred and twenty-six, each and every member who has attained or shall attain the age of seventy (70) shall be retired by the board of trustees from the service forthwith, or at such time within a year thereafter as it shall deem advisble.

(3) Upon superannuation retirement a present-entrant shall receive a retirement allowance which shall consist of:

(a) An annuity which shall be the actuarial equivalent of his accumulated deductions at the time of his retirement.

(b) A pension in addition to the annuity, of one one-hundred and fortieth (1/140th) of his average salary multiplied by the number of years of service he has rendered since he became a member.

(c) A further pension of one seventieth (1/70th) of his average salary multiplied by the number of years of service certified on his prior-service certificate.

(d) And if such person shall have been a member of the Teachers' Retirement Fund prior to his becoming a member of the retirement system, a further additional pension which shall be the actuarial equivalent of the contributions without interest, which he paid to the Teachers' Retirement Fund prior to the first day of September, nineteen hundred and nineteen, which he has not otherwise received.

(4) Upon superannuation retirement a new-entrant shall receive a retirement allowance which shall consist of:

(a) An annuity which shall be the actuarial equivalent of his accumulated deductions at the time of his retirement, and

(b) A pension, in addition to the annuity, of one one hundred and fortieth (1/140th) of his average salary multiplied by the number of years of his total service.

(5) The total retirement allowance granted to a person with twenty or more years of service who has attained the age of sixty-two (62) shall in no case be less than four hundred dollars per annum.

Disability Retirement.

(6) Retirement for disability of a teacher who is a member shall be made by the board of trustees upon the application of his employer or upon his own application or that of a person acting in his behalf, on a disability allowance if he is under the age of sixty-two (62) years, provided the board of trustees, after a medical examination of said member, made at the place of his residence within the State or other place mutually agreed upon, by a physician or physicians designated by said board, shall determine upon the basis of a report submitted by said physician or physicians that the said member is physically or mentally incapacitated for the performance of duty and that said member ought to be retired; *and further provided,* that the said member has rendered ten years of service as a teacher in New Jersey, and if he is a new-entrant, has also been a member of the retirement system for ten years.

Should the applicant for a disability retirement be dissatisfied with the decision of the board of trustees, appeal may be made to the State Board of Education and the decision of the latter shall be final and binding upon all parties.

(7) On retirement for disability, a teacher who is a member shall receive a retirement allowance which shall consist of:

(a) An annuity which shall be the actuarial equivalent of his accumulated deductions at the time of his retirement:

(b) A pension which together with his annuity provided under the paragraph immediately preceding shall be sufficient to produce a retirement allowance of one-seventieth of his average salary multiplied by the number of years of his total service but not less than three hundred dollars per annum or thirty per centum of said average salary, with the exception that in no case shall the allowance exceed nine-tenths of the rate of retirement allowance to which he might have been entitled had retirement been deferred until the age of sixty-two (62).

(c) And if such person shall have been a member of the Teachers' Retirement Fund prior to his becoming a member of the retirement sys-

tem, a further additional pension, which shall be the actuarial equivalent of the contributions without interest, which he paid to the Teachers' Retirement Fund prior to the first day of September, nineteen hundred and nineteen, which he has not otherwise received.

(8) Once each year during the first five years following the retirement of the teacher on a disability allowance and once in every three-year period thereafter, the board of trustees may, and upon his application shall, require any disability beneficiary who is under the age of sixty-two (62) years to undergo medical examination by a physician or physicians designated by the board of trustees, said examination to be made at the place of residence of said beneficiary or other place mutually agreed upon. Should such physician or physicians thereupon report and certify to the board of trustees that such disability beneficiary is not totally incapacitated either physically or mentally for the performance of duty and that such disability beneficiary is engaged in or is able to engage in a gainful occupation and should the board of trustees concur in such report, then the amount of his retirement allowance shall be reduced to an amount which, when added to the amount then earned by him shall not exceed the amount of his average salary. Should his earning capacity be later changed, then the amount of his retirement allowance may be further altered: *provided,* that the new retirement allowance shall not exceed the amount of the retirement allowance originally granted or an amount which when added to the amount earned by the beneficiary, exceeds the amount of his average salary. Should a disability beneficiary who is under the age of sixty-two (62) years refuse to engage in a gainful occupation when qualified so to do and further refuses a position in the public schools offered to him, the board of trustees may reduce his retirement allowance to half of its former rate.

(9) Should any disability beneficiary, under the age of sixty-two (62) years, refuse to submit to a medical examination as provided under the subsection immediately preceding, his retirement allowance may be discontinued until his withdrawal of such refusal, and should such refusal continue for one year, all his rights in and to such retirement allowance may be forfeited.

(10) Should a disability beneficiary be restored to active service at a salary equal to that formerly received, his retirement allowance shall cease and he shall again become a member of the retirement system, and his annuity reserve shall be transferred from the annuity reserve fund to the annuity savings fund and credited to his individual account as a part of his accumulated deductions in the latter fund, and he shall contribute to the said fund thereafter in the same manner and at the same rate as he paid upon his disability. Upon his restoration to active service his pension reserve in the pension reserve fund shall be transferred to the pension accumulation fund. His prior-service certificate on the basis of which his service was computed at the time of his retirement shall be renewed and shall again be in full force and effect, and in addition upon his subsequent retirement he shall be credited with all his service as a member subsequent to the period covered by his prior-service certificate, anything to the contrary in this act notwithstanding.

Withdrawal and Death Benefits.

(11) A contributor who withdraws from service or ceases to be a teacher for any cause other than death or retirement, shall be paid on demand the accumulated deductions standing to the credit of his individual account in the annuity savings fund.

(12) The board of trustees may, in its discretion, withhold for not more than one year after a member last rendered school-service all or part of his accumulated deductions, if, before he last became a member, he withdrew from the annuity savings fund all or part of his accumulated deductions and failed to redeposit such withdrawn amount to the credit of his individual account in such fund.

(13) Should a contributor die before retirement his accumulated deductions shall be paid to his estate or to such person having an insurable interest in his life as he shall have nominated by written designation duly executed and filed with the board of trustees.

Optional Benefits.

(14) At the time of his retirement, any contributor may elect to receive his benefits in a retirement allowance payable througout life, or he may on retirement elect to receive the actuarial equivalent at that time of his annuity, his pension or his retirement allowance in a lesser annuity, or a lesser pension, or a lesser retirement allowance, payable throughout life with the provision that:

Option 1. If he dies before he has received in payments the present value of his annuity, his pension or his retirement allowance as it was at the time of his retirement, the balance shall be paid to his legal representatives or to such person having an insurable interest in his life as he shall nominate by written designation duly acknowledged and filed with the board of trustees.

Option 2. Upon his death, his annuity, his pension or his retirement allowance shall be continued throughout the life of and paid to such person having an insurable interest in his life as he shall nominate by written designation duly acknowledged and filed with the board of trustees at the time of his retirement.

Option 3. Upon his death, one-half of his annuity, his pension or his retirement allowance shall be continued throughout the life of and paid to such person having an insurable interest in his life as he shall nominate by written designation duly acknowledged and filed with the board of trustees at the time of his retirement.

Option 4. Some other benefit or benefits shall be paid either to the member or to such person or persons as he shall nominate, provided such other benefit or benefits, together with the lesser annuity or lesser pension or lesser retirement allowance, shall be certified by the actuary to be of equivalent actuarial value to his annuity, his pension or his retirement allowance and shall be approved by the board of trustees.

Benefits of Teachers Now Retired.

(15) All pensions payable prior to the month of September, nineteen hundred and nineteen, by the State under the provisions of chapter 268, P. L. 1914, shall, beginning with said month, be paid from the pension fund created by this article and all such pensions as are below four hundred dollars shall be increased to and be paid at the rate of four hundred dollars.

(16) Should the Teachers' Retirement Fund by reason of insolvency or liquidation cease to pay in full the annuities granted and therefore paid by said fund, there shall be paid out of the pension fund created by this article to persons who shall have been annuitants of said Teachers' Retirement Fund from a date prior to the first day of September, nineteen hundred and nineteen, such part or all of such annuities as the said Teachers' Retirement Fund shall have ceased to pay; *provided,* that neither all nor any part of the amount of any reduction in the annuity therefore payable by the said Teachers' Retirement Fund shall be paid

out of the said pension fund, unless there is in effect a corresponding and proportionate reduction by the said Teachers' Retirement Fund in the annuity of, and payment thereof to, each and every person retired by the Retirement Fund; *provided, further,* that the board of trustees shall be the sole judge as to whether the amount of any allowance which would thereby become payable out of the pension fund corresponds to the amount of a reduction by the Teachers' Retirement Fund in the allowance of the same person due to the insolvency or liquidation of said fund.

ACTUARIAL BASIS

252. (1) Immediately after the establishment of the retirement system, the actuary of the board of trustees shall make such investigation of the mortality service and compensation experience of the teachers of the State of New Jersey as he shall recommend, and the board of trustees shall authorize, for the purpose of determining the proper tables for the purposes of the system. On the basis of such investigation and recommendation the board of trustees shall adopt such tables and certify such rates as are required in paragraphs (a), (b), and (c) of sub-section (2) of this section. On the basis of such tables as the board of trustees shall adopt, the actuary, as soon as practicable, shall make a valuation of the assets and liabilities of the funds created by this article.

(2) In the years nineteen hundred twenty-one and nineteen hundred and twenty-four, and once in every five-year period thereafter, the said actuary shall make an actuarial investiagtion into the mortality, service and compensation or salary experience of the members and beneficiaries of the retirement system, and shall make a valuation of the assets and liabilities of the various funds thereof, and upon the basis of such investigation and valuation the board of trustees shall:

(a) adopt for the retirement system such mortality, service and other tables as shall be deemed necessary;

(b) certify the rates of deduction from compensation computed to be necessary to pay the annuities authorized under the provisions of this article; and

(c) certify the rates of contribution, expressed as a proportion of the compensation of members at various ages, which shall be made to the pension accumulation fund.

FUNDS CREATED, CONTRIBUTIONS THERETO AND PAYMENTS THEREFROM

253. (1) The funds created are: (a) the annuity savings fund; (b) the annuity reserve fund; (c) the pension fund; (d) the pension accumulation fund; (e) the pension reserve fund; (f) the expense fund.

Funds Derived from Members' Contributions.

(2) The annuity savings fund shall be the fund in which shall be accumulated deductions from the compensation of contributors.

(3) Upon the basis of such tables as the board of trustees shall adopt, and regular interest, the actuary of the board of trustees shall determine for each contributor the proportion of compensation, which when deducted from each payment of his prospective earnable compensation prior to his eligibility for service retirement and accumulated at regular interest until his attainment of the age of sixty-two (62) shall be computed to be sufficient to provide at that time an annuity equal to the pension then allowable under the provisions of this article for service rendered during his membership, and in case the said member is a new-entrant for such prior service as he both claimed and was allowed. The pro-

portion of compensation shall be computed to remain constant until the member attains the age of sixty-two (62) years. The proportion computed for a contributor entering at the age of sixty-one (61) shall be applied to any contributor who has attained a greater age at the time of entrance into the retirement system.

(4) The board of trustees shall certify to each employer and the said employer shall deduct from the compensation of each member on each and every payroll for each and every payroll period subsequent to the date upon which such certification becomes effective, the per centum of his earnable compensation so computed. But the board of trustees shall not certify, nor shall any employer make, any deduction for annuity purposes from the compensation of a member who has attained the age of sixty-two (62) and completed thirty-five (35) years of service, if such member elects not to contribute.

(5) In determining the amount earnable by a contributor in a payroll period, the board of trustees may consider the rate of compensation payable to such member on the first day of the payroll period as continuing throughout such payroll period, and it may omit deductions from compensation for any period less than full payroll period if a teacher was not a contributor on the first day of the payroll period, and to facilitate the making of deductions it may modify the deduction required of any contributor by such an amount as shall not exceed one-tenth of one per centum of the compensation upon the basis of which said deduction is to be made.

(6) In lieu of any part of the deduction from compensation hereinbefore required, any new-entrant may deposit in the annuity savings fund by a single payment such an amount as will be sufficient to permit him to contribute the rate of contributions applicable to an earlier entrance age. In addition to the deductions from compensation hereinbefore required any contributor may redeposit in a single payment an amount equal to the total amount which he withdrew therefrom as provided in this article, or he may deposit therein by a single payment an amount computed to be sufficient together with the retirement allowance otherwise provided, to provide for him a total retirement allowance of one-half of his final salary at the age of sixty-two (62). Such additional amounts so deposited shall become a part of his accumulated deductions.

(7) The accumulated deductions of a contributor withdrawn, as provided in this article, shall be paid out of the annuity savings fund. In the case of a withdrawal, an amount equivalent to the difference between the amount of the accumulated deductions calculated at regular interest and the amount of the accumulated deductions calculated by use of interest at the rate of three and one-half per centum per annum compounded annually shall be transferred to the expense fund.

(8) The annuity reserve fund shall be the fund from which shall be paid all annuities and all benefits in lieu of annuities. Upon the retirement of a contributor his accumulated deductions shall be transferred from the annuity savings fund to said annuity reserve fund.

FUNDS DERIVED FROM CONTRIBUTIONS FROM SCHOOL APPORTIONMENT FUND
PENSION FUND

(9) The pension fund shall be the fund in which shall be accumulated the reserves for the payment of pensions to present-entrants; into which the moneys necessary for the payment of all other pensions with the exception of those payable to new-entrants shall be paid; and from which all pensions with the exception of those payable to new-entrants shall be paid.

(10) The actuary, after making the first valuation required, shall determine the present value of the liability on account of pensions to present-entrants then retired or to be retired. He shall then determine the percentage of the total compensation paid to all members for service during the preceding school year, which is equivalent to one-twenty-fifth of the said liability.

(11) The State Comptroller shall pay annually, beginning with the year nineteen hundred and twenty, from the school apportionment fund into the pension fund the amount as certified to him by the board of trustees, which shall be equal to the per centum, determined in accordance with this subsection and the subsection immediately preceding, of the total compensation paid to all members for service during the preceding school year.

Each annual payment shall be at least three per centum greater than the preceding annual payment. In every case, the amount shall be sufficient, when combined with that in the fund to provide the pensions payable out of this fund during the year then current, and shall be equal to at least one-twenty-fifth of the liability on account of present-entrants now retired or to be retired. The State Comptroller shall continue such payments until the accumulated reserve in the pension fund equals the present value, as computed by the actuary and approved by the board of trustees, of all pension payments thereafter payable on account of present-entrants, then retired or to be retired on a pension as provided in this article.

(12) To pay the pensions provided under subsections (15) and (16) of section two hundred and fifty-one, the board of trustees shall annually prepare an estimate of the amounts required therefor and the State Comptroller shall pay from the school apportionment fund into the pension fund for this purpose the amounts required.

(13) All moneys appropriated for the payment of pensions to public-school teachers under chapter 268, P. L. 1914, for the fiscal year beginning July, nineteen hundred and nineteen, less the amount disbursed for said pensions during the months of July and August, shall, on the first day of September, one thousand nine hundred and nineteen, be paid by the State Treasurer into the pension fund.

PENSION ACCUMULATION FUND

(14) The pension accumulation fund shall be the fund in which shall be accumulated the reserves necessary to pay all pensions to be granted to new-entrants.

(15) In the month of July, nineteen hundred and twenty, for a period covering the ten months next preceding, and annually thereafter, covering the year next preceding the State Comptroller shall pay from the school apportionment fund into the pension accumulation fund on account of all new-entrants who were contributors for one or more months of such period immediately preceding, such amount as shall be certified by the board of trustees as necessary to provide thereby during their prospective active service the pension reserve required at the time of retirement for the disability or superannuation pension herein provided. The amount for each teacher included in the aggregate amount so certified shall be computed to bear a ratio to the salary earnable by such teacher during the period for which the amount is certified, which shall remain constant during his entire period of prospective active service and shall be based on such mortality and other tables as shall be adopted by the board of trustees and on regular interest.

PENSION RESERVE FUND

(16) The pension reserve fund shall be the fund from which shall be paid all pensions, and all benefits, in lieu of pensions, granted to new-entrants. Upon the retirement of a new-entrant an amount equal to his pension reserve fund shall be transferred to said fund from the pension accumulation fund.

(17) Should any disability pension payable from said fund be cancelled, the pension reserve thereon shall thereupon be transferred from the pension reserve fund to the pension accumulation fund. Should the pension of a disability beneficiary be reduced as a result of an increase in his earning capacity, the amount of the annual reduction in his pension shall be paid annually into the pension accumulation fund during the period of such reduction.

EXPENSE FUND

(18) The expense fund shall be the fund from which the expense of the administration of the retirement system shall be paid exclusive of amounts payable as retirement allowances and as other benefits provided herein.

(19) The board of trustees shall certify annually to the State Comptroller the amount required to defray such expense in the ensuing fiscal year after making allowance for the estimated amounts to be received by the expense fund from the annuity savings fund, and the State Comptroller shall pay from the school apportionment fund into the expense fund the amount so determined.

COLLECTION OF CONTRIBUTIONS

Collection of Members' Contributions:

254. (1) Each employer shall keep such records, and from time to time, furnish such information as the board of trustees in the discharge of its duties may require.

(2) Upon the employment of any teacher to whom this article may apply, he shall be informed by his employer of his duties and obligations in connection with the retirement system as a condition of his employment. Every teacher accepting employment shall be deemed to consent and agree to any deductions from his compensation required herein and to all other provisions of this article.

(3) Notwithstanding any other law, rule or regulation affecting the salary, pay, compensation, other perquisites or tenure of any teacher to whom this article applies, or shall apply, and notwithstanding that the minimum salary, pay, compensation or other perquisites, provided by law for any such teacher shall be reduced thereby, payment less said deductions shall be a full and complete discharge and acquittance of all claims and demands whatsoever for service rendered by such member during the period covered by such payment.

(4) When a teacher is employed by a school district, the custodian of school moneys and, in other cases, his employer shall notify the board of trustees within ten days after the appointment of a teacher of such appointment and shall deduct the proportion of salary as certified by the board of trustees from the salary of such teacher as herein directed, and shall certify to the Treasurer of the State of New Jersey on account of each and every payroll a statement as voucher for the amounts deducted

for annuity purposes at the rate certified by the board of trustees, shall send a duplicate of such statement to the board of trustees, and shall transmit or credit to the said State Treasurer the amount thereof. Any failure on the part of the custodian of school moneys of any school district to comply with the provisions of the subsection shall constitute a default, and the State Board of Education may withhold school moneys from such school district until such default is made good.

(5) The State Treasurer shall credit the annuity savings fund with each amount transmitted or credited as provided in the subsection immediately preceding, and he shall transmit to the board of trustees monthly, or at such less frequent intervals as the board of trustees shall designate, a detailed statement of all amounts so paid in and credited by him to the annuity savings fund.

The board of trustees shall cause each of such amounts so deducted to be credited in the annuity savings fund to an individual account of the member from whose compensation the deduction was made.

Collection of Employers' Contributions:

(6) Upon the basis of each actuarial determination and appraisal provided herein, the board of trustees shall annually prepare and certify to the State Comptroller an estimate of the amounts necessary to be paid from school apportionment fund to the various funds for ensuing fiscal year.

(7) The State Comptroller, prior to the apportionment, on or before the first day of February, among the several counties of the State of the funds devoted to the maintenance and support of a thorough and efficient system of free public schools, as provided in and by an act entitled "A supplement to an act entitled 'An act to establish a thorough and efficient system of free public schools, and to provide for the maintenance, support and management thereof,' approved October nineteenth, one thousand nine hundred and three," approved April twentieth, one thousand nine hundred and six, shall deduct from the moneys so to be apportioned, in addition to any other sums to be deducted from said fund by virtue of the provisions contained in any law of this State, the amount certified to him by the board of trustees as necessary to make the payments to the various funds of the retirement system from the School Apportionment Fund as provided herein for the then ensuing school year, and he shall pay such amounts into the various funds of the retirement system, on the first day of July following the certification.

(8) If at any time no deductions shall have been made as required by the subsection immediately preceding, or if at any time the amount deducted shall not be sufficient to make the payments provided for herein, such payments shall be provided for by the Comptroller of the Treasury in making the then next deductions as required herein, and shall be in addition to the sum certified to him by the board of trustees as necessary for the payments for the then ensuing school year.

(9) To meet the expense of establishing and administering the retirement system created herein there is hereby appropriated from the school apportionment fund the sum of twenty-five thousand dollars ($25,000).

(10) To meet the cost of pensions granted under chapter two hundred and sixty-eight, Laws of nineteen hundred and fourteen, assumed herein, and the cost of such annuities granted by the Teachers' Retirement Fund which are assumed herein, and shall be payable on or after the first day of July, nineteen hundred and nineteen, there is hereby appropriated from the school apportionment fund the sum of two hundred and fifty thousand dollars. The State Comptroller shall deduct such sum from the

school apportionment fund in the same manner as provided by chapter sixty-five of the Laws of nineteen hundred and nine, and shall pay said sum into the pension fund created herein.

ADMINISTRATION

Board of Trustees.

255. (1) The general administration and responsibility for the proper operation of the retirement system and for making effective the provisions of this article is hereby vested in a board of trustees, which shall be organized immediately after the passage of this act. The said board shall from time to time establish rules and regulations for the administration and transaction of its business and for the control of the funds created herein, and shall perform such other functions as are required for the execution of the provisions of the retirement system.

(2) The membership of the board of trustees shall consist of the following:

(a) The Commissioner of Education of the State of New Jersey; *Provided,* that the commissioner may appoint the assistant commissioner, who acts in his place during his absence, to serve in his stead.

(b) The Treasurer of the State of New Jersey.

(c) One trustee appointed by the Governor of the State of New Jersey to serve until the first day of September, nineteen hundred and twenty-one. His successor shall be appointed each for a term of three years.

(d) Three trustees elected from among the members of the retirement system, one to serve for one year, one to serve for two years and one to serve for three years from the first day of November following their election. One of such trustees shall be a resident of and employed in either the county of Hudson, Essex or Bergen; one a resident of and employed in either the county of Passaic, Sussex, Warren, Morris, Union, Hunterdon, Somerset, Middlesex, Mercer or Monmouth; and the third a resident of and employed in either the county of Ocean, Burlington, Camden, Gloucester, Salem, Cumberland, Atlantic or Cape May. Their successors shall be elected for a term of three years from among the members of the retirement system.

(e) One trustee, not a teacher nor an officer of the State, elected by the other trustees, to serve until the first day of January, nineteen hundred and twenty-one, whose successor shall be elected in the same manner for a term of three years.

A vacancy occurring in the board of trustees shall be filled for the unexpired term in the same manner as herein provided for regular appointment or election.

(3) Until the election of the three trustees from among the members of the retirement system the Commissioner of Education, the State Treasurer and the trustee appointed by the Governor, are empowered to perform the duties of the board of trustees. All rules and regulations adopted by them shall be subject to change by the entire board when the membership of such board shall be completely filled.

(4) An annual convention of the retirement system shall be held at the State House in Trenton, at twelve o'clock, noon, on the second Saturday in October each year, beginning with the year nineteen hundred and nineteen, for the purpose of electing members of the board of trustees of the retirement system, and receiving the report of said board of trustees and for the transaction of such other business as may properly be within its jurisdiction. Such convention shall be composed of delegates from each county in the State, selected as hereinafter provided. Said convention shall be called to order by a member of the board of trustees,

designated by said board, and shall organize by the election of a chairman and a secretary. Each county shall be entitled to be represented in such convention by one delegate for each two hundred members of the retirement system in said county and one delegate for any fraction over one hundred, *provided,* that each county shall be entitled to at least one delegate. Said delegate shall be elected by the vote of a majority of the members of the retirement system voting at a meeting held for the purpose of electing such delegates. Said meeting for the election of delegates shall be held at such convenient place as shall be selected by the county superintendent of schools. Notice of the time and place of said meeting shall be issued by said county superintendent at least ten days before the date of said meeting. Said meeting shall organize by the election of a chairman and secretary. Said secretary shall, within five days after said meeting, forward to the board of trustees of the retirement system a certificate containing the names and addresses of the delegates elected to the annual convention, and shall furnish the delegates elected with a certificate of their election. In case of a vacancy in the delegation from any county, the remaining delegates from such county may fill such vacancy by appointing a member in said county, who shall possess the qualifications hereinbefore prescribed for delegates to such convention. A majority of all of the delegates entitled to seats in said convention shall constitute a quorum for the transaction of business.

Administrative Staff and Procedure.

(5) Each member of the board of trustees shall, upon his appointment or election, take an oath of office that, so far as it devolves upon him, he will diligently and honestly administer the affairs of the said board, and that he will not knowingly violate or willingly permit to be violated any of the provisions of law applicable to the retirement system. Such oath shall be subscribed to by the member making it, and certified by the officer before whom it is taken, and shall be immediately filed in the office of the Secretary of State.

(6) Each trustees shall be entitled to one vote in the board. Four votes shall be necessary for a decision by the trustees at the meeting of said board. The board of trustees shall keep a record of all of its proceedings, which record shall be open to public inspection.

(7) The board of trustees shall elect from its membership a chairman, shall engage such actuarial and other technical service, and shall appoint such employees as may be necessary to transact the business of the retirement system. The actuary shall be the technical advisor of the board of trustees on matters regarding the operation of the funds created by the provisions of this article, and shall perform such other duties as are required in connection therewith. The Attorney-General of the State of New Jersey shall be the legal advisor of the board of trustees.

(8) The actuary of the board shall recommend and the board of trustees shall keep in convenient form such data as shall be necessary for actuarial valuation of the various funds of the retirement system.

(9) The board of trustees shall publish annually a report showing a valuation of the assets and liabilities of the funds, certifying as to the accumulated cash and securities of the funds and giving an account of the operation of the system. The said board shall submit said report to the Governor and shall furnish copies thereof to the office of the State Department of Education, the State Treasurer and to each employer for the use of the members and the public.

(10) The members of the board of trustees shall serve without compensation, but shall be reimbursed from the expense fund for any necessary expenditures. No teacher shall suffer loss of salary

or wages through serving on the board of trustees. Compensation for all other personal service to the retirement system shall be fixed by the board.

(11) The board of trustees shall establish itself in an office for the administration of the retirement system in such city as it shall consider most suitable for the transaction of its business.

Management of Funds.

(12) The board of trustees shall be the trustees of the several funds created by this article and shall have full power to invest the same, subject to all the terms, conditions, limitations and restrictions imposed by law upon investment of sinking funds in the making and disposing of their investments; and, subject to like terms, conditions, limitations and restrictions, said trustees shall have full power to hold, purchase, sell, assign, transfer or dispose of any of the securities and investments in which any of the funds created herein shall have been invested, as well as of the proceeds of said investments and any moneys belonging to said funds.

(13) The board of trustees shall annually allow regular interest on the mean amount for the preceding year in each of the funds, with the exception of the expense fund. The amount so allowed shall be due and payable to said funds, and shall be annually credited thereto by the board of trustees, from the interest and other earnings on the moneys of the retirement system. Any additional amount required to meet the interest on the funds of the retirement system shall be included in the amount certified to the State Comptroller as necessary to make the payments to the various funds of the retirement system from the school apportionment fund for the ensuing school year.

(14) The Treasurer of the State of New Jersey shall be the custodian of the several funds. All payments from said funds shall be made by him only upon voucher signed by the chairman and countersigned by such other person as may be designated by the board of trustees.

(15) For the purpose of meeting disbursements for pensions, annuities, and other payments there may be kept an available fund not exceeding ten per centum of the total amount in the several funds of the retirement system, on deposit in any bank in this State, organized under the laws thereof, or under the laws of the United States or in any trust company incorporated by any law of this State; *provided*, that the sum deposited in any one bank or trust company shall not exceed twenty-five per centum of the paid-up capital and surplus of said bank or trust company.

(16) Except as herein provided, no trustee and no employee of the board shall have any interest, direct or indirect, in the gains or profits of any investment made by the board of trustees, nor as such directly or indirectly receive any pay or emolument for his services. And no trustee or employee of the board shall, directly or indirectly, for himself or as an agent in any manner use the same, except to make such current and necessary payments as are authorized by the board of trustees; nor shall any trustee or employee of the board become an endorser or surety or become in any manner an obliger for moneys loaned by or borrowed of the board of trustees.

OTHER PROVISIONS

State Supervision.

256 (1) The various funds of the retirement system shall be subject to the supervision of the State Department of Insurance.

Exemption from Taxation.

(2) The right of a teacher to a pension, an annuity, or a retirement allowance, to the return of contributions, any benefit or right accrued or accruing to any person under the provisions of this article, and the moneys in the various funds created hereunder, are hereby exempt from any State or municipal tax, and shall not be subject to execution garnishment, attachment or any other process whatsoever, and shall be unassignable except as in this act specifically provided.

Protection Against Fraud.

(3) Any person who shall knowingly make any false statement, or shall falsify or permit to be falsified any record or records of this retirement system in any attempt to defraud such system as a result of such act, shall be guilty of a misdemeanor, and shall be punishable therefor under the laws of the State of New Jersey. Should any change or error in records result in any employee or beneficiary receiving from the retirement system more or less than he would have been entitled to receive had the records been correct, then, on the discovery of any such error, the board of trustees shall correct such error, and, so far as practicable, shall adjust the payments in such a manner that the actuarial equivalent of the benefit to which he was correctly entitled shall be paid.

2. All acts and parts of acts inconsistent with the provisions of this act or any portion of the act to which this act is an amendment, which are inconsistent with the provisions of this act are hereby repealed. If any section, clause or part of this act shall be declared unconstitutional by the decision of any court of competent jurisdiction, such decision shall not invalidate or destroy the force or purpose of the remainder thereof.

3. This act shall take effect immediately.

Approved April 10, 1919.

Laws of 1919, Chapter 81. An Act to amend "An act to amend an act entitled 'An act to establish a thorough and efficient system of free public schools, and to provide for the maintenance, support and management thereof,' approved October nineteenth, one thousand nine hundred and three," approved May seventh, one thousand nine hundred and seven.

BE IT ENACTED by the Senate and General Assembly for the State of New Jersey:

1. Section two hundred and twenty-one of Article XXV of the act to which this act is an amendment is hereby amended to read as follows:

221. I. Any member of the now existing Teachers' Retirement Fund shall be released from membership in said fund and from any obligation for the payment of dues or deduction from salary for the support of said fund, and the board or body by which he or she is employed shall cease to deduct the percentages as heretofore deducted from his or her salary; provided, such member shall, at any time after the passage of this act, give written notice duly witnessed declaring his or her withdrawal from membership in the Teachers' Retirement Fund, and waiving all his or her rights, benefits and privileges thereunder in triplicate, and in substantially the following form:

NOTICE OF WITHDRAWAL

To the Board of Trustees of the Teachers' Retirement Fund.

This shall serve as a notice that I hereby withdraw from membership in the Teachers' Retirement Fund, and that I hereby waive all my rights, benefits and privileges in and to said fund by virtue of my membership in and contributions to the Teachers' Retirement Fund.

Date ....Signed ....

Witnessed by ....Address ....

Address ....School ....

One copy of such notice shall be delivered to the board of trustees of the Teachers' Retirement Fund, at the office of the Teachers' Retirement Fund, and one copy to the board of trustees of the Teachers' Pension and Annuity Fund, and the other copy of the board or body by which he or she is employed. In case such delivery is not made in person or by agent, it shall be deemed to have been made when said notice is mailed properly addressed to the party to which such delivery should be made postpaid and by registered mail. Such notice shall become effective and membership in the Teachers' Retirement Fund shall cease on the first day of the month next following such delivery of such notice.

II. No person appointed as a teacher in this State after the passage of this act shall be required to become a member of the Teachers' Retirement Fund, but such person may do so if he or she so elects.

2. This act shall take effect immediately.

Approved April 10, 1919.

(f) Ohio

An Act to provide a state-wide retirement system for teachers in schools supported wholly or in part by public funds.

Be it enacted by the General Assembly of the State of Ohio:

Section 1. That the following words and phrases as used in this act, unless a different meaning is plainly required by the context, shall have the following meanings:

"Retirement System" shall mean the "State Teachers' Retirement System" provided for in this act.

"Retirement Board" shall mean the board provided for in this act to administer said Retirement System.

"Employer" shall mean the board of education, school district or other agency within the State of Ohio by which a teacher is employed or paid.

"Teacher" shall mean any teacher or other person regularly employed in the public schools of the State of Ohio, who is required by law to have a teachers' certificate; and any teacher in any school or college or other institution wholly controlled and managed, and wholly or partly supported by the state or any subdivision thereof, the board of trustees or other managing body of which shall accept the requirements and obligations of this act.

"Present-teachers" shall mean any person who was a teacher, as defined by this act, before the first day of September, nineteen hundred and twenty; whose membership in the retirement system has been continuous; and,

(a) who became a member on said date, or on the date of his first service as a teacher after said date and within one year after his last day of service previous to said first day of September, nineteen hundred and twenty; or,

(b) who was a teacher of a school or college or other institution on said date, or on a subsequent date within one year after his last day of service as such teacher previous to said first day of September, nineteen hundred and twenty, and who continued thereafter to be a teacher thereof until he, with the teaching staff of such school or college or other institution, became a member of the retirement system as provided in this act; or,

(c) who was a member of a local district pension system on said date, or on the date of his first eligibility to such membership after said date

and within one year after his last day of membership therein previous to said first day of September, nineteen hundred and twenty, and who continued thereafter to be a member until he, with the membership of such local district pension system, became a member of the retirement system.

"New-entrant" shall mean any teacher who is a member except a present-teacher.

"Prior-service" shall mean all service as a teacher, as defined by this act, rendered before the first day of September, nineteen hundred and twenty, by a present-teacher and similar service in another state credit for which was procured by a present-teacher as provided by this act.

"Total-service" shall mean all service of a member of the retirement system since last becoming a member and, in addition thereto, all his prior-service computed as provided in this act.

"Member" shall mean any person included in the membership of the retirement system as provided in this act.

"Contributor" shall mean any person who has an account in the teachers' savings fund.

"Beneficiary" shall mean any person in receipt of a retirement allowance or other benefit provided by this act.

"Regular interest" shall mean interest at four per centum per annum, compounded annually.

"Accumulated contributions" shall mean the sum of all the amounts deducted from the compensation of a member and credited to his individual account in the teachers' savings fund together with regular interest thereon.

"Final average salary" shall mean the average annual compensation, not exceeding two thousand dollars, earnable as a teacher by a member during the ten years immediately preceding his date of retirement.

"Annuity" shall mean payments for life derived from contributions made by a contributor and paid from the annuity and pension reserve fund as provided in this act. All annuities shall be paid in twelve equal monthly installments.

"Pension" shall mean annual payments for life derived from appropriations made by an employer and paid from the employers' accumulation fund or the annuity and pension reserve fund as provided in this act. All pensions shall be paid in twelve equal monthly installments.

"Retirement allowance" shall mean the pension plus the annuity.

"Annuity reserve" shall mean the present value, computed upon the basis of such mortality tables as shall be adopted by the retirement board with regular interest, of all payments to be made on account of any annuity or benefit in lieu of any annuity, granted to a member under the provisions of this act.

"Pension reserve" shall mean the present value computed upon the basis of such mortality tables as shall be adopted by the retirement board with regular interest, of all payments to be made on account of any pension, or benefit in lieu of any pension, granted to a member under the provisions of this act.

The year for the administration of this act shall mean the school year and shall begin September first and end with August thirty-first next following.

"Local district pension system" shall mean any school teachers' pension fund created in any school district of the State of Ohio in accordance with the laws of such state prior to the first day of September, nineteen hundred and twenty.

SECTION 2. A state teachers' retirement system is hereby established for the teachers of the public schools of the State of Ohio which shall

include the several funds created and placed under the management of a "Retirement Board" for the payment of retirement allowances and other benefits under the provisions of this act. The retirement board herein created shall have the right to sue and be sued, plead and be impleaded, contract and be contracted with and do all things necessary to carry out the provisions of this act and by such name all of its business shall be transacted, all of its funds invested, all warrants for money drawn and payments made, and all of its cash and securities and other property shall be held.

SECTION 3. The general administration and the management of the state teachers' retirement system and the making effective the provisions of this act are hereby vested in the retirement board which shall have authority to make all necessary rules and regulations, not inconsistent with the provisions of this act to carry into effect the provisions thereof.

SECTION 4. The retirement board shall consist of five members as follows: (a) the superintendent of public instruction; (b) the auditor of state; (c) the attorney general; and (d) two other members known as teacher members, who shall be members of the retirement system and who shall be elected by ballot by the members of the retirement system.

SECTION 5. The first election of teacher members of the retirement board shall be conducted by and under the supervision of the superintendent of public instruction within sixty days after the first day of September next succeeding the passage of this act. At the first election each teacher shall be deemed to be a member of the retirement system and shall have the right to vote for two candidates for membership in the retirement board, provided, that any teacher in a local district pension system who exercises such right to vote shall be deemed to have petitioned for a merger with the state teachers' retirement system as provided in this act and his name shall be deemed to have been duly signed to any such petition subsequently circulated in such local district pension system. The candidate receiving the highest number of votes shall be elected to serve for a period ending on the second thirty-first of August following the election; the candidate receiving the second highest number of votes shall be elected to serve for a period ending on the thirty-first of August following the election.

SECTION 6. Annually after the first election a member of the retirement system shall be elected by ballot to membership in the retirement board to serve for a term of two years beginning on the first day of September following the election. Vacancies occurring in the terms of teacher members of the board shall be filled by the remaining members of the board by election for the unexpired terms. Teacher members of the retirement board who fail to attend the meetings of the board for four months or longer, without being excused, shall be considered as having resigned and successors shall be elected for their unexpired terms.

SECTION 7. All elections for members of the retirement board after the first election shall be held on the first Monday of May of each year under the direction of the retirement board. Any member of the retirement system shall be eligible for election as a member of the retirement board and the name of any member who shall be nominated by a petition signed by at least one hundred members of the retirement system shall be placed upon the ballots by the retirement board as a regular candidate. Other names of eligible candidates may at any election be substituted for the regular candidates by writing such names upon the ballots. The candidates receiving the highest number of votes for any term as member of the retirement board shall be elected a member of the retirement board for such term.

SECTION 8. Until the first election shall have been held and the teacher-

members elected thereat duly installed, the ex officio members of the retirement board shall constitute an acting retirement board.

SECTION 9. Each member of the retirement board created by this act upon appointment or election shall take an oath of office that he will support the constitution of the United States, the constitution of the State of Ohio, and that he will diligently and honestly administer the affairs of the said board and that he will not knowingly violate or wilfully permit to be violated any of the provisions of law applicable to this act. Such oath shall be subscribed to by the member making it, and certified by the officer before whom it is taken, and shall be immediately filed in the office of the secretary of state.

SECTION 10. A majority of the members of the retirement board shall constitute a quorum for the transaction of any business.

SECTION 11. The members of the retirement board shall serve without compensation, but they shall be reimbursed from the expense fund for all actual necessary expenses and for any loss of salary or wages they may suffer through serving on the retirement board.

SECTION 12. The retirement board shall elect from its membership a chairman.

SECTION 13. The treasurer of the state of Ohio shall be the custodian of the funds of the retirement system, and all disbursements therefrom shall be paid by him only upon vouchers duly authorized by the retirement board and bearing the signatures of said board; or, such vouchers may bear the fac-simile signatures of the board members printed thereon and the signatures of the president and secretary of said board.

The treasurer of state shall give a separate and additional bond in such amount as may be fixed by the governor, but not less than the amount of money in all of the funds of the retirement system at the time such bond is fixed and with sureties to the approval of the governor, conditioned for the faithful performance of the duties of such treasurer as custodian of the funds of the retirement system provided for herein. Such bond shall be deposited with the secretary of state and kept in his office. The governor may from time to time require the treasurer of state to give other and additional bonds, as the funds of said retirement system increase, in such amounts and at such times as may be fixed by the governor which additional bonds shall be conditioned and filed as is provided for the original bond of the state treasurer covering the funds of the retirement system.

The treasurer of state is hereby authorized and directed to deposit any portion of the funds of the retirement system not needed for immediate use in the same manner and subject to all the provisions of law with respect to the deposit of state funds by such treasurer, and all interest earned by such portion of the said retirement funds as may be deposited by the state treasurer in pursuance of authority herewith given shall be collected by him and placed to the credit of such fund or funds.

SECTION 14. The attorney general of the state of Ohio shall be the legal advisor of the retirement board.

SECTION 15. The retirement board shall have power to employ a secretary and to secure the service of such technical and administrative employees as may be necessary for the transaction of the business of the retirement system. The compensation of all persons engaged by the retirement board and all other expenses of the board necessary for the proper operation of the retirement system shall be paid at such rates and in such amounts as the retirement board shall approve. The retirement board shall receive and act upon all applications for retirement under the provisions of this act and shall provide for the payment of all retirement allowances and other benefits and shall make such other necessary

expenditures as are required or authorized by the provisions of this act.

SECTION 16. The members of the retirement board shall be the trustees of the several funds created by this act and said board shall have full power to invest same in bonds of the United States, the state of Ohio or of any county, city, village or school district of the state of Ohio at current market prices for such bonds; provided that such purchase be authorized by a resolution adopted by the board; and all such bonds so purchased, forthwith, shall be placed in the hands of the treasurer of state, who is hereby designated as custodian thereof, and it shall be his duty to collect the interest thereon as the same becomes due and payable and also the principal thereof and place the same when so collected into the retirement funds herein provided for. The treasurer of state shall honor and pay all vouchers drawn on the retirement funds for the payment of such bonds upon delivery of said bonds to him when there is attached to such vouchers a certified copy of such resolution of the board authorizing the purchase of such bonds; and the board may sell any of said bonds upon like resolution, and the proceeds thereof shall be paid by the purchaser to the treasurer of state upon delivery to him of said bonds by the treasurer.

SECTION 17. All interest earned upon the entire amount of money belonging to said retirement system shall be divided among the various funds thereof proportionately, except that no interest shall be credited to the guarantee and expense funds herein provided for.

SECTION 18. Except as herein provided, no trustee and no employee of the retirement board shall have any interest direct or indirect in the gains or profits of any investment made by the board nor as such directly or indirectly receive any pay or emolument for his services. And no trustee or employee of the said board directly or indirectly, for himself or as an agent or partner of others, shall borrow any of its funds or deposits or in any manner use the same except to make such current and necessary payments as are authorized by the board; nor shall any member or employee of said board become an endorser or surety or become in any manner an obliger for moneys loaned by or borrowed of the board.

SECTION 19. The retirement board shall provide for the maintenance of an individual account with each member showing the amount of the member's contributions and the interest accumulations thereon. It shall collect and keep in convenient form such data as shall be necessary for the preparation of the required mortality and service table, and for the compilation of such other information as shall be required for the actuarial valuation of the assets and liabilities of the various funds created by this act. Upon the basis of the mortality and service experience of the members and beneficiaries of the system, the retirement board from time to time shall adopt the tables to be used for valuation purposes and for determining the amount of annuities to be allowed on the basis of the contributions of members.

SECTION 20. At such times as the retirement board may deem it necessary and at least once within the first three years of the operation of this act, and once in each quinquennial period thereafter the retirement board shall have prepared by a competent actuary familiar with retirement systems, a report showing a complete valuation of the present and prospective assets and liabilities of the various funds created by this act with the exception of the guarantee fund and the expense fund. The actuary shall make an investigation of the mortality and service experience of the members of the system and shall report fully upon the condition of the retirement system together with such recommendations as he shall deem

advisable for the information of the retirement board in the proper operation of the retirement system.

SECTION 21. The custodian shall furnish annually to the retirement board a sworn statement of the amount of the funds in his custody belonging to the retirement system. The records of the retirement board shall be open to public inspection and any member of the retirement system shall be furnished with a statement of the amount to the credit of his individual account upon written request by such member, provided that the retirement board shall not be required to answer more than one such request of a member in any one year.

SECTION 22. The membership of the retirement system shall consist of the following:

(a) All teachers in service on the first day of September, nineteen hundred and twenty, except teachers who shall have filed with their employer a statement in writing requesting exemption from membership or teachers who are excluded by the provisions of this act.

(b) All teachers who became teachers or who were reappointed as teachers after the first day of September, nineteen hundred and twenty, except teachers who are excluded by the provisions of this act.

(c) The teachers in any school or college or other institution supported in whole or in part by the state or any subdivision thereof and wholly controlled or managed by the state or any subdivision thereof shall become members on the same terms and conditions as the teachers in the public schools, provided that the board of trustees or other managing body of such school, college or other institution, if such institution is now in existence or if in existence on said date, shall agree by formal resolution adopted before September first, nineteen hundred twenty-one, to accept all the requirements and obligations imposed by this act upon employers of members. Any institution which comes into existence as such thereafter shall have ninety days in which to accept said requirements and obligations. A certified copy of said resolution shall be filed with the retirement board. When such resolution shall have been adopted and a copy of it filed with the retirement board, it shall not later be subject to rescindment or abrogation. Service in such schools, colleges or other institutions shall be then considered in every way the same as service in the public schools so far as the purposes of this act are concerned, and

(d) All other teachers who become contributors under the provisions of this act.

SECTION 23. Members of a local district pension system maintained under the laws of the state of Ohio from appropriations or contributions made wholly or in part by any employer and existing at the time this bill becomes a law are hereby excluded from membership in this retirement system. But should a majority of all the teachers participating in any such local district pension system apply for membership in the retirement system created by this act by a petition duly signed and verified, approved by their employer, and filed with the retirement board, all the teachers included in the membership of such local district pension system shall become members of the retirement system created by this act at such time within three months after the filing of such petition and the compliance with the other provisions of this act relative to the dissolution and discontinuance of such local district pension system as the retirement board shall designate.

SECTION 24. The retirement board, notwithstanding the foregoing provisions, may deny the right to become members to any class of teachers, whose compensation is only partly paid by the state, or who are not serving on a per annum basis, or who are on a temporary basis, or who are not required to have a teacher's certificate, and it may also in its discretion, make

optional with teachers in any such class their individual entrance into membership.

SECTION 25. The membership of any person in the retirement system shall cease if he withdraw his accumulated deductions or if he retire on a pension as provided in this act, or if he die, or if, in any four-year period after he last became a member, he shall render less than two years of service as a teacher.

SECTION 26. Each teacher, upon becoming a member, shall file a detailed statement of all his previous service as a teacher and shall furnish such other facts as the retirement board may require for the proper operation of the retirement system.

SECTION 27. To the extent to which it is used in determining the liability of any fund created by this act, the retirement board shall verify such statement by the best evidence it shall be able to obtain. If official records are not available as to the length of service, salary or other information required for the administration of this act, the board is hereby empowered to use its discretion as to the evidence to be accepted.

SECTION 28. The retirement board shall credit a year of service to any teacher who is employed in a school district for the number of months the regular day school of such district were or shall be in session in said district within any year beginning on or about the first day of September and ending on or about the thirty-first day of August following, and shall fix and determine by appropriate rules and regulations how much credit shall be given for parts thereof, but in computing such service, or in computing final compensation, it shall credit no time during which a member was absent without pay, and it shall credit not more than one year for all service rendered in any school year.

SECTION 29. Subject to the above restrictions, and to such other rules and regulations as the retirement board shall adopt, said board shall issue to each present-teacher a certificate certifying to the aggregate length of all his prior-service as a teacher as defined in this act.

SECTION 30. Any present-teacher or new entrant, in addition to service as a teacher as defined in this act, may claim credit for similar service as a teacher in the public day schools of another state of the United States or of any territory or possession of the United States and such service shall be treated by the retirement board and included in his prior-service certificates as if it were service in the state of Ohio provided the teacher shall pay into the employer's accumulation fund an amount equal to the additional liability assumed by such fund on account of the crediting of such years of service rendered outside of the state. The retirement board shall have final authority to determine and fix the amount that any teacher shall pay on account of such service outside of the state in the case of any present-teacher or new entrant, who desires to claim outside service and make such payment.

SECTION 31. So long as membership continues, a prior-service certificate shall be final and conclusive for retirement purposes as to such service, unless modified by the retirement board upon application made by the member or upon its own initiative within one year after the date of its issuance or modification, or in case a mistake is found therein within one year of the time such mistake is so found.

SECTION 32. When a present-teacher ceases to be a member his prior-service certificate shall be void and not renewable.

SECTION 33. At retirement the total service credited a teacher shall consist of all his service as teacher since he last became a member and, if he has a prior-service certificate which is in full force and effect, all service certified on such prior-service certificate.

SECTION 34. Any teacher, except a new-entrant with less than five years

of service, who has attained sixty years of age may retire, if a member, by filing with the retirement board an application for retirement. The filing of such application shall retire such member as of the end of the school year then current. At the end of the school year in which they become members, the retirement board shall retire all teachers who were over seventy years of age at the time they become members and shall automatically retire all other teachers who are members at the end of the school year in which age seventy is attained.

SECTION 35. Upon superannuation retirement, a teacher shall be granted a retirement allowance consisting of:

(a) An annuity having a reserve equal to the amount of the teacher's accumulated contributions at that time; and

(b) A pension of equivalent amount; and

(c) An additional pension, if such teacher is a present-teacher, equal to one and one-third per centum of his average final salary multiplied by the number of years of service certified in his prior-service certificate

SECTION 36. Any teacher who has completed thirty-six years of total service may retire, if a member, on a commuted superannuation allowance by filing with the retirement board an application for such form of allowance. The filing of such application shall retire such member as of the end of the school year then current. Upon retirement on a commuted superannuation allowance, a teacher shall be granted a retirement allowance consisting of:

(a) an annuity having a reserve equal to the amount of the teacher's accumulated contributions at that time; and

(b) a pension, having a reserve equal to the amount of the total liability of the employers' accumulation fund for the payment upon superannuation retirement of a pension equal to the annuity which the teacher's accumulations would purchase provided such teacher made no further payments; and

(c) an additional pension, if such teacher is a present-teacher, having a reserve equal to the amount of the total liability of the employer's accumulation fund for the payment of the pension allowable on superannuation retirement by reason of prior-service as certified in such teacher's prior-service certificate. Provided, however, that no teacher retiring after thirty-six years of service shall receive less than twenty-five dollars per month as a total retirement allowance.

SECTION 37. Medical examination of a member for disability shall be made upon the application of the employer or upon the application of the member or of a person acting in his behalf, stating that said member is physically or mentally incapacitated for the performance of duty and ought to be retired, provided that the said member was a teacher as defined in this act for not less than ten years preceding his retirement and was a member in each of such ten years which were subsequent to the year nineteen hundred and twenty. If such medical examination, conducted by a competent disinterested physician, or physicians, selected by the retirement board shows that the said member is physically or mentally incapacitated for the performance of duty and ought to be retired, the examining physician, or physicians, shall so report and the retirement board shall retire the said member for disability forthwith.

SECTION 38. Upon disability retirement, a member shall receive a retirement allowance which shall consist of:

(a) An annuity having a reserve equal to the amount of the teacher's accumulated contributions at that time; and

(b) A pension which, together with his annuity shall provide a retirement allowance of one and one-fifth per centum of his final average salary multiplied by the number of years of total service, but not less

than thirty per centum of said final average salary, with the exception that in no case shall the rate per centum of final average salary to which said retirement allowance amounts exceed nine-tenths of the rate per centum of final average salary to which he probably would have been entitled had retirement been deferred to the age of sixty.

Section 39. A disability beneficiary, notwithstanding the provisions of this act, shall be considered on leave of absence during his first five years on the retired list and shall retain his membership in the retirement system. Once each year during said period, the retirement board shall require any disability beneficiary under the minimum age for superannuation retirement to undergo medical examination, said examination to be made at the place of residence of said beneficiary or other place mutually agreed upon. Upon completion of such examination by an examining physician, or physicians, selected by the retirement board, the examiner shall report and certify to the board whether said beneficiary is physically and mentally capable of resuming service similar to that from which he was retired. If the retirement board concur in a report by the examining physician or physicians that the said disability beneficiary is capable of resuming service similar to that from which he was retired, the board shall so certify to his last employer before retirement and said employer by the first day of the next succeeding school year shall restore said beneficiary to his previous position and salary or to a position and salary similar thereto. Should any disability beneficiary die during such leave of absence aforesaid his estate shall be paid the balance which remains to his credit in the retirement fund at his death. Should a disability beneficiary be restored to active service his retirement allowance shall cease and the annuity and pension reserves on his allowance at that time in the annuity and pension reserve fund shall be transferred from the annuity and pension reserve fund to the teachers' savings fund and the employers' accumulation fund respectively. Should any disability beneficiary, during his first five years on the retired list and while under the age of sixty, refuse to submit to a medical examination as required by this act, his retirement allowance shall be discontinued until his withdrawal of such refusal, and should such refusal continue for one year, all his rights in and to such retirement allowance shall be forfeited. After a disability beneficiary has been on the retired list for a period of five years he shall not be required to submit to further disability examination.

Section 40. A contributor who ceases to be a teacher for any cause other than death or retirement, upon demand, within ten years after such cessation of service, shall be paid the accumulated contributions standing to the credit of his individual account in the teachers' savings fund. Ten years after such cessation of service if no previous demand has been made, any accumulated contributions of a contributor shall be returned to him or to his legal representatives. If the contributor or his legal representatives can not then be found, his accumulated contributions shall be forfeited to the retirement system and credited to the guarantee fund.

Section 41. Should a contributor die before retirement, his accumulated contributions shall be paid to his estate or to such person as he shall have nominated by written designation duly executed and filed with the retirement board. If no legal representatives can be found, his accumulated contributions shall be forfeited to the retirement system and credited to the guarantee fund.

Section 42. Until the first payment on account of any benefit is made, the beneficiary may elect to receive such benefit in a retirement allowance payable throughout life, or the beneficiary may then elect to receive the actuarial equivalent at that time of his annuity, his pension, or his retirement allowance, in a lesser annuity, or a lesser pension, or a lesser re-

tirement allowance, payable throughout life with the provision that,

Option 1—If he die before he has received in payments the present value of his annuity, his pension, or his retirement allowance, as it was at the time of his retirement, the balance shall be paid to his legal representatives or to such person, having an insurable interest in his life, as he shall nominate by written designation duly acknowledged and filed with the retirement board.

Option 2—Upon his death, his annuity, his pension, or his retirement allowance, shall be continued throughout the life of and paid to such person having an insurable interest in his life, as he shall nominate by written designation duly acknowledged and filed with the retirement board at the time of his retirement.

Option 3—Upon his death, one-half of his annuity, his pension, or his retirement allowance, shall be continued throughout the life of such person, having an insurable interest in his life as he shall nominate by written designation duly acknowledged and filed with the retirement board at the time of his retirement.

Option 4—Some other benefit or benefits shall be paid to the beneficiary or to such other person or persons as he shall nominate provided such other benefit or benefits, together with such lesser annuity, or lesser pension, or lesser retirement allowance, shall be certified by the actuary engaged by the retirement board to be of equivalent actuarial value to his annuity, his pension or his retirement allowance, and shall be approved by the retirement board.

SECTION 43. Each teacher who is a member of the retirement system shall contribute four per centum of his earnable compensation not exceeding two thousand dollars per annum, to the teachers' savings fund. Each employer shall deduct from the compensation of each contributor on each and every payroll of such contributor for each and every payroll period subsequent to the date upon which such contributor became a member an amount equal to four per centum of such contributor's earnable compensation provided that the amount of a contributor's earnable compensation in excess of two thousand dollars per annum shall not be considered. In determining the amount earnable by a contribution in a payroll period, the retirement board and the employer may consider the rate of compensation payable to such contributor on the first day of the payroll period as continuing throughout such payroll period and deductions may be omitted from compensation for any period less than a full payroll period, if a teacher was not a contributor on the first day of the payroll period; and to facilitate the making of deductions, the deduction required of any contributor may be modified in any payroll period by an amount not exceeding ten cents. The deductions provided herein shall be made notwithstanding that the minimum compensation provided for by law for any member shall be reduced thereby. Every member shall be deemed to consent and agree to the deductions made and provided for herein and shall receipt in full for his salary or compensation, and payment less said deductions shall be a full and complete discharge and acquittance of all claims and demands whatsoever for the services rendered by such person during the period covered by such payment. Each teacher shall pay with the first payment to the teachers' savings fund each year, and in addition thereto a sum to be determined by the retirement board, but not to exceed one dollar, which amount shall be credited to the expense fund. Said payments for the expense fund shall be made to the retirement board in the same way as payments to the teachers' savings fund shall be made.

SECTION 44. Each employer of a teacher who is a member of the retirement system shall pay to the employers' accumulation fund a certain

per centum of the earnable compensation of each such teacher to be known as the "normal contribution" and a further per centum of the earnable compensation of each such teacher to be known as the "deficiency contribution." The rates per centum of such contributions shall be fixed on the basis of the liabilities of the retirement system and shall be certified to the employers by the retirement board after each actuarial valuation. Until the first such certification, the normal contribution shall be two and eight-tenths per centum of the members' salaries and the deficiency contributions shall be two and seventy-seven hundredths per centum of the members' salaries.

Section 45. On the basis of regular interest and of such mortality and other tables as shall be adopted by the retirement board the actuary engaged by the retirement board to make each valuation required by this act during the period over which the deficiency contribution is payable, immediately after making such valuation, shall determine the uniform and constant percentage of the earnable compensation of the average new entrant, who is a contributor which, if contributed on the basis of the compensation of such contributor throughout his entire period of active service, would be sufficient to provide at the time of his retirement the total amount of his pension reserve. The rate per centum so determined shall be known as the "Normal contribution" rate. After the deficiency contribution has ceased to be payable, the normal contribution shall be the rate per centum of the earnable salary of all contributors obtained by deducting from the total liabilities of the employers' accumulation fund of the amount of the funds in hand to the credit of that fund and dividing the remainder by one per centum of the present value of the prospective future salary of all contributors as computed on the basis of the mortality and service tables adopted by the retirement board and on regular interest. The normal rate of contribution shall be determined by the actuary after each valuation, and shall be certified to the employers by the retirement board and shall continue in force until a new valuation and certification.

Section 46. Immediately succeeding the first valuation, the actuary engaged by the retirement board shall compute the percentage of the total compensation of all contributors during the preceding school year which is equivalent to four per centum of the amount of the total pension liability to all contributors not dischargeable during the remainder of the active service of all contributors by the aforesaid normal contribution. The contribution derived by deductions at the rate per centum so determined shall be known as the "deficiency contribution."

Section 47. Each employer shall pay annually into the employers' accumulation fund, in such monthly or less frequent installments as the retirement board shall require, an amount certified by the retirement board which shall equal the per centum of the total compensation, earnable by all contributors during the preceding school year, which is the sum of the two rates per centum hereinbefore described and required to be computed, to-wit, the sum of the normal contribution rate plus the deficiency contribution rate. The aggregate of all such payments by employers shall be sufficient, when combined with the amounts in the employers' accummulation fund, to provide the pensions payable out of the fund during the year then current, and if not, the additional amount so required shall be collected by means of an increased rate per centum of the deficiency contribution which shall be certified to the employers by the retirement board and shall continue in force for the period of one year.

Section 48. The beforementioned deficiency contribution contributable by the employers shall be discontinued as soon as the accumulated reserve in the employers' accumulation fund shall equal the present value, as ac-

tuarily computed, and approved by the retirement board, of the total liability of such funds for the payment of pensions less the present value, computed on the basis of the normal contribution rate then in force, of the normal contributions to be received on account of teachers who are at that time contributors.

SECTION 49. Each employer, before employing any teacher to whom this act may apply, shall notify such person of his duties and obligations under this act as a condition of his employment.

Any such appointment or reappointment of any teacher in the public day schools of the state on or before the first day of September, nineteen hundred and twenty, or service upon indefinite tenure after that date shall be conditioned upon the teacher's acceptance of the provisions of this act as a part of the contract.

SECTION 50. During September of each year, or at such other time as the retirement board shall approve, each employer shall certify to the retirement board the names of all teachers to whom this act applies.

SECTION 51. Each employer shall on the first day of each calendar month, or at such less frequent intervals as the retirement board many approve, notify the retirement board of the employment of new teachers, removals, withdrawals and changes in salary of teachers that shall have occurred during the month preceding or the period since the period covered by the last notification.

SECTION 52. Each employer shall cause to be deducted on each and every payroll of a contributor or each and every payroll period, subsequent to the first day of September, nineteen hundred and twenty, the contribution payable by such contributor as provided in this act. Each employer shall certify to the treasurer of said employer on each and every payroll a statement as voucher for the amounts so deducted and for the amount of the normal contribution and the deficiency contribution payable by the employer as provided in this act. Each employer shall send a duplicate of such statement to the secretary of the retirement board.

SECTION 53. The treasurer of each employer on receipt from the employer of the voucher for deductions from the salaries of teachers and for the contributions of the employer as provided in this act shall transmit monthly or at such times as the retirement board shall designate the amounts specified in such voucher to the secretary of the retirement board. The secretary of the retirement board after making a record of all such receipts shall pay them to the treasurer of the State of Ohio for use according to the provisions of this act.

SECTION 54. Each employer shall keep such records and shall furnish such information and assistance to the retirement board as it may require in the discharge of its duties.

SECTION 55.—Employers who obtain funds directly by taxation are hereby authorized and directed to levy annually such additional taxes as are required to provide the additional funds necessary to meet the financial requirements imposed upon them by this act, and said tax shall be placed before and in preference to all other items except for sinking fund or interest purposes.

SECTION 56. The funds hereby created are the teachers' savings fund, the employers' accumulation fund, the annuity and pension reserve fund, the guarantee fund and the expense fund.

(a) The teachers' savings fund shall be the fund in which shall be accumulated contributions from the compensation of contributors for the purchase of annuities.

The accumulated contributions of a contributor returned to him upon his withdrawal, or paid to his estate or designated beneficiary in the event of his death as provided in this act shall be paid from the teachers' savings

fund. Any accumulated contributions forfeited by a failure of a teacher or his estate to claim the same as provided in this act shall be transferred from the teachers' savings fund to the guarantee fund. The accumulated contributions of a contributor shall be transferred from the teachers' savings fund to the annuity and pension reserve fund in the event of his retirement.

(b) The employers' accumulation fund shall be the fund in which shall be accumulated the reserves for the payment of all pensions payable as provided by this act. The amounts paid by employers on account of their normal contributions and their deficiency contributions shall be credited to the employers' accumulation fund.

Until the deficiency contribution shall have been discontinued, upon the retirement of a contributor, an amount equal to this annuity reserve shall be transferred from the employers' accumulation fund to the annuity and pension reserve fund and a pension equal to his annuity shall be paid therefrom. The remainder of any pension granted to him shall be paid directly from the employers' accumulation fund until the pension reserve thereon shall have been fully accumulated and the deficiency contribution shall have been discontinued. Thereupon, the full reserve on all pensions theretofore payable from the employers' accumulation fund shall be transferred from said fund to the annuity and pension reserve fund and said pensions shall thereafter be paid from the annuity and pension reserve fund. Upon the retirement of a contributor thereafter, the full amount of his pension reserve shall be transferred from the employers' accumulation fund to the annuity and pension reserve fund.

(c) The annuity and pension reserve fund shall be the fund from which shall be paid all pensions and annuities, or benefits in lieu thereof, on account of which reserves have been transferred from the teachers' savings fund or the employers' accumulation fund as provided in this act.

When the deficiency contributions have ceased to be payable, the full amount of the pension reserves on the pensions then directly payable from the employers' accumulation fund shall be transferred from said fund to the annuity and pension reserve fund. The annuity and pension reserve fund then and thereafter shall be the fund from which shall be paid all annuities and all pensions, and all benefits in lieu thereof, which are payable as provided in this act. Upon the retirement of a contributor, then and thereafter, his accumulated deductions shall be transferred from the teachers' savings fund to the annuity and pension reserve fund, and an amount equal to his full pension reserve shall be transferred from the employers' accumulation-fund to the annuity and pension reserve fund.

Any teacher at the time of retirement shall be permitted to deposit in the annuity and pension reserve fund such amount in multiples of one hundred dollars as such teacher shall desire and such teacher shall receive in return therefor an annuity having a reserve equal to the amount deposited, provided, that in no case shall a teacher have the right to purchase an annuity, which together with the retirement allowance otherwise provided under the provisions of this act shall exceed such teacher's final average salary.

(d) A guarantee fund is hereby created to facilitate the crediting of uniform interest on the amounts in the various other funds with the exception of the expense fund, and to provide a contingent fund out of which special requirements of any of the other funds may be covered. All income, interest and dividends derived from the deposits and investments authorized by this act shall be paid into the guarantee fund.

The retirement board is hereby authorized to accept gifts and bequests. Any funds that may come into possession of the retirement system in this manner or which may be transferred from the teachers' savings fund by reason of lack of claimant or because of a surplus in any

fund created by this act or any other moneys whose disposition is not otherwise provided for herein shall be credited to the guarantee fund.

The interest allowed by the retirement board to each of the funds as provided in this act shall be paid to such funds from the guarantee fund. Any deficit occurring in any fund which would be not automatically covered by the payment to that fund as otherwise provided by this act shall be met by payments from the guarantee fund to such fund. Should the amount in this fund in any year be insufficient to meet the amounts payable therefrom the amount of such deficiency with regular interest added thereto, shall be assessed by the retirement board in the succeeding years among the employers on the basis of the amount of the normal contributions paid by them, and the amounts so assesed shall be payable by such employers in the same manner and out of the same funds as their normal contributions are made and shall be credited to the guarantee fund.

(e) The expense fund shall be the fund from which shall be paid the expense of the administration of this act, exclusive of amounts payable as retirement allowances and as other benefits as provided in this act.

SECTION 57. The retirement board shall estimate annually the amount required to defray such expense in the ensuing year. The retirement board shall apportion the amount of the expense so estimated in equal amounts among the contributors, provided that the amount so apportioned in any year shall not exceed one dollar per contributor. If the amount estimated to be required to meet the expenses of the retirement board is in excess of one dollar per contributor for the year, the amount of such excess shall be paid from the guarantee fund. If in the judgment of the retirement board, as evidenced by a resolution of that board recorded in its minutes, the amount in the guarantee fund exceeds the amount necessary to cover the ordinary requirement of that fund for a period of five years in the future, the board may transfer to the expense fund such excess amount not exceeding the entire amount required to cover the expenses as estimated for the year and the retirement board may then apportion the remaining amount required for the expense fund, if any, among the contributors as before mentioned.

Section 58. The sum of ten thousand dollars is hereby appropriated from the moneys in the general revenue fund of the State of Ohio, not otherwise appropriated, for the expense of establishing, organizing and starting the operations of the retirement system and of establishing an office therefor. This sum shall be credited to the expense fund and expended only on order of the retirement board.

SECTION 59. If a local district pension system votes to merge with the retirement system as provided in this act, the retirement board created by this act shall employ an actuary to value the assets and liabilities which will be taken over by the retirement system hereby created in the event of such merger. The actuary so employed shall be an actuary also approved by the employer in whose district the local district pension system is operated, and the expense of the valuation shall be paid by such employer. The actuary shall compute the present value of the liabilities on account of teachers in service in the local district pension system and on account of pensioners on the rolls of such local district pension system. He shall also compute the present value of the prospective amount to be received by reason of the payment of the normal contributions by the employer on behalf of the active teachers of such local system in the event of the contemplated merger. From the present value of the total liability for pensions on account of teachers in service in the local district pension system as previously determined, the actuary shall deduct the present value of the normal contributions. The amount remaining, together with the excess, if any, of the present value of all payments, necessary to

continue the pensions of the pensioners of the local district pension system, over and above the amount of the moneys and securities of such system, shall be known as the "accrued liability." Provided that no teacher, a member of a local district pension system at the time of the passage of this act, shall receive a lesser total retirement allowance upon retirement after merger of the local system with the state system than said teacher would have received upon retirement under the provisions of the local system.

SECTION 60. The actuary shall then determine the amount of a deficiency contribution which payable annually without regard to the payroll of contributors and increasing by three per centum of itself each year, until the year in which the deficiency contribution payable by other employers who had no local pension system may be expected to be discontinued, shall have a present value equal to this accrued liability.

Section 61. The increasing contribution so determined by the actuary shall be paid by the employer instead of the deficiency contribution computed as otherwise provided by this act, anything to the contrary notwithstanding. In the event of merger, the moneys and securities to the credit of the local district pension system, not exceeding an aggregate amount equal to the present value of the payments to be made on account of all pensions to the pensions on the rolls of the local district pension system, shall be transferred to the employers' accumulation fund and the pensions then payable by the local district pension system shall thereafter be paid from the employers' accumulation fund until the reserves on these pensions with the other pensions payable from the employers' accumulation fund shall have been accumulated and shall be transferred to the annuity and pension reserve fund, from which fund they shall thereafter be payable. The pensions of the active members of the local district pension system and of the new entrants shall thereafter be payable as are the pensions of other members of the retirement system hereby created. The amount of the excess of the moneys and securities of the local district pension system over and above the present value of the payments to be made on account of all pensions to the pensioners of the rolls of the local district pension system shall be transferred to the teachers' savings fund and shall be credited pro rata to the active teachers of such local district pension system on the basis of the amounts of their previous contributions to the local district pension system, provided, however, that in case such method of distribution shall not be found practicable by the retirement board, the board may use such other method of apportionment as may seem fair and equitable to such board. The amount so credited in any case shall be considered as a part of the teacher's accumulated contributions for all purposes except in the case of retirement in which it shall be considered as an amount in excess of the teacher's accumulated contributions and shall be used in purchasing from the annuity and pensions reserve fund an annuity, in addition to any other annuity or pension benefit otherwise provided by this act.

After the moneys and securities of any local district pension system shall have been transferred to the employers' accumulation fund or to the teachers' savings fund as hereinbefore provided, such local district pension system shall cease to exist.

SECTION 62. The right of a person to a pension, an annuity, or retirement allowance itself, any optional benefit, any other right accrued or accruing to any person under the provisions of this act, the various funds created by this act and all moneys and investments and income thereof, are hereby exempt from any state, county, municipal or other local tax, and shall not be subject to execution, garnishment, attachment, the operation of bankruptcy or insolvency laws or any other process of law whatsoever, and shall be unassignable except as in this act specifically provided.

SECTION 63. Any person who shall knowingly make any false statement or shall falsify or permit to be falsified any record or records of this retirement system in any attempt to defraud such system as a result of such act, shall be guilty of a misdemeanor and shall upon conviction thereof be fined not less than ten nor more than one thousand dollars.

(g) VERMONT

Laws of 1919, Chapter 57—An Act to Establish the Vermont Teachers' Retirement System.

It is hereby enacted by the General Assembly of the State of Vermont:

Section 1. Definitions. The following words and phrases as used in this act shall have the following meanings:

(1) "Teacher" shall mean any teacher, principal, supervisor or superintendent employed in a public day school within the state.

(2) "Public school" shall mean any day school conducted within the state under the authority and supervision of a duly elected board of school directors.

(3) "Year" as used in this act referring to the term of school service of a teacher shall mean the same as "school year," as defined in the general laws of the state at the time when the school service in question was rendered, provided, however, that the retirement board may in special cases determine what school service shall constitute the equivalent of a specified period of service under this act.

(4) "Interest," unless herein otherwise provided, shall mean compound interest at such rate as shall be determined by the retirement board

(5) Wherever the word "he" appears it shall be taken to apply to females as well as males.

SECTION 2. Teachers' Retirement System. The Vermont teachers' retirement system, hereinafter called the retirement system, is hereby established, to become effective on July first nineteen hundred and nineteen.

SECTION 3. Teachers Retirement Association. An association to be known as the Vermont teachers' retirement association, hereinafter called the retirement association, may be organized by and among the teachers in the public schools of the state. Membership in said association may be acquired under the following conditions:

All teachers who shall serve in the public schools on or after July first, nineteen hundred and nineteen, may become members of the association, upon application to and approval by a majority of the retirement board and under such rules and regulations as it may prescribe.

SECTION 4. Organization. The teachers who desire to become members of the retirement association shall, as soon as may be after July first, nineteen hundred and nineteen, adopt such form of organization for said association as shall be prescribed by the commissioner of education, the state treasurer and the insurance commissioner; and thereafter such organization shall be maintained for the purposes herein contemplated, with such modifications thereof as may be adopted from time to time by the members of the association with the approval of the retirement board.

SECTION 5. Teachers' Retirement Board. The administration of the retirement system hereby established is hereby vested in a board to be known as the teachers' retirement board, herein called the retirement board, consisting of five members, as follows: The commissioner of education, the state treasurer, the insurance commissioner and two members of the retirement association. Upon the organization of said asso-

ciation the members thereof shall elect from among their number, in a manner to be approved by the commissioner of education, the state treasurer and the insurance commissioner two persons to serve upon the retirement board, one member to serve for one year and one for two years; and thereafter the members of the retirement association shall elect annually fom among their number, in a manner to be approved by the retirement board, one person to serve on said board for the term of two years.

Until the organization of the retirement association and the election of two representatives therefrom to membership on the retirement board, the commissioner of education, the state treasurer and the insurance commissioner shall be empowered to perform all the duties of said board.

When a vacancy occurs in the retirement board by reason of the death, resignation or inability to serve of one of the members chosen by the retirement association such vacancy shall be filled for the unexpired term by the election of a new member of said association, at a meeting duly called for that purpose.

The members of the retirement board shall serve without compensation, but they shall be reimbursed for all necessary expenses which they may sustain through their service on the board. All claims for such reimbursement shall be subject to the approval of the auditor of accounts.

SECTION 6. General Duties. The retirement board shall provide for the payment of retirement allowances and such other expenditures as are prescribed by this act, and shall perform such other functions as are required for the execution of the provisions hereof; and to that end said board shall make by-laws and regulations not inconsistent with the provisions of this act, shall employ a secretary, whose duty it shall be to keep a record of all its proceedings, and shall provide such other clerical assistance as may be necessary for the discharge of the duties prescribed hereunder.

SECTION 7. Administrative Duties. The retirement board shall adopt mortality tables for the retirement system hereby created, and, except as herein otherwise provided, shall determine what rates of interest shall be established in connection with such tables or otherwise under the provisions hereof. Said board may modify such mortality tables or adopt others, and may change rates of interest once established, unless otherwise provided herein, but not so as to impair the vested rights hereunder of any member of the retirement association, unless such modifications or changes shall be assented to by such member. Said board shall establish and maintain, under competent actuarial advice, a complete system of records and accounting.

SECTION 8. Creation of Annuity Fund. The annuities hereinafter provided shall be paid out of a fund to be known as the annuity fund, which shall be constituted as follows:

(1) Each member of the retirement association shall pay into the annuity fund, under regulations to be prescribed by the retirement board, such percentage of his salary as may be determined by said board within the limits hereinafter prescribed. The rate of assessment for each school year, which shall not be more than five per cent of each member's salary, shall be established by the retirement board on or before the 1st day of April in each year, and notice thereof shall be given all members of the retirement association in such manner as the retirement board shall prescribe. Such rate of assessment shall be uniform, at any given time, for all members of the retirement association; provided, how-

ever, that no member shall in any one year pay into said fund less than sixteen dollars nor more than one hundred dollars.

(2) Any member of the retirement association, who for thirty years shall have paid into said fund his regular assessments, as above provided, shall be exempt from further assessments; but such member may thereafter, if he so elects, continue to pay his assessments into said fund.

(3) The annuity fund shall also consist of such amounts as may be appropriated from time to time by the general assembly on estimates submitted by the retirement board, subject to approval by the board of control, as hereinafter provided. Such estimates shall provide for an appropriation sufficient to enable the board to credit annually to each member of the retirement association a sum equal to his contribution to the annuity fund and the additional allowance provided in section thirteen of this act. Provided, however, that the state shall not be called upon to pay into said annuity fund more than one hundred dollars in any year on account of the contribution of any one member of said retirement association; nor shall the total amount appropriated by the state in any one year to carry out the provisions of this act exceed the sum of twenty-five thousand dollars.

SECTION 9. Contributions. How Credited. The contributions made by the members of the retirement association to the annuity fund hereinbefore created, shall be credited as made to such members severally in individual accounts up to the time of retirement, and at the same time each member so contributing shall be credited individually with a like amount as the contribution of the state. Contributing members shall also be credited with the interest earned by their several contributions and by the equal contributions made by the state as aforesaid.

SECTION 10. Retirement. Any member of the retirement association, who shall have served as a public school teacher for a period of thirty years, of which twenty years, and the last five preceding retirement, shall have been in this state, may retire from service in the public schools on or after attaining the age of sixty years, if a woman, and of sixty-five years, if a man, without forfeiting any of the benefits of the retirement system; and at any time thereafter, if incapable of rendering satisfactory service, such member may be so retired, with the approval of the retirement board.

SECTION 11. Reinstatement of Member. Any member of the retirement association, who shall have withdrawn from service in the public schools of the state, shall, on being re-employed therein, be reinstated in the retirement association upon such terms and conditions as shall be prescribed by the retirement board.

SECTION 12. Retirement Allowances. Except as hereinafter provided, a member of the retirement association, who shall have retired from service in the public schools of the state, and who shall have complied with all the provisions of this act and with the rules and regulations of the retirement board hereby authorized, shall be entitled to receive from the annuity fund hereinbefore established, (1) such annuity as his contributions to said fund, with interest thereon, together with the like contributions made thereto by the state, and the interest thereon, will purchase on the basis of McClintock's table of mortality among annuitants, and an interest rate of three and a half per cent annum; or, (2) at his option, he shall be entitled to receive an annuity of less amount, as may be determined by the retirement board for annuitants electing such option, with the provision that if the annuitant dies before receiving payments equal to the sum of his assessments hereunder and the contributions equal thereto made by the state, as hereinbefore provided, with interest, the difference between the total amount of said payments and the total amount

of such assessments and contributions, with interest, shall be paid as an annuity to a surviving husband, or wife, as the case may be, or to his or her legal representatives as such member may elect, subject to such reasonable rules and regulations as the retirement board may prescribe.

SECTION 13. Teachers Already in Service. Any teacher already in the service of the state when this act takes effect, who shall become a member of the retirement association when forty-five years of age or older, shall on retiring as hereinbefore provided, be entitled to receive the allowance prescribed in the preceding section for members entering the service of the state as teachers after the passage of this act, and such additional allowance from the state as may be determined by the retirement board, the same to be paid as provided in the preceding section; but his total annuity hereunder shall not exceed one half his average annual salary throughout his entire period of active service in the state.

SECTION 14. Allowance in Case of Death or Disability. A member of the retirement association, who shall have been a teacher in the public schools of the state at least six years, and who shall become totally and permanently disabled to teach, as determined upon examination by physicians approved by the retirement board, shall receive an annuity based upon the accumulated sum of his contributions and the equal contributions of the state, with interest, calculated on the basis of McClintock's table of mortality among annuitants and three and a half per cent interest, with such additional annual allowance from the state as the retirement board, in the exercise of sound discretion, shall deem equitable, the same being limited by his earning capacity in other occupations, such additional allowance to be continued so long, and in such amount, as the retirement board may determine; provided, however, that in no event shall the total sum received annually by such member, under this section, including his annuity and the additional allowance above provided for, exceed half of his average annual salary throughout his entire period of service as determined by the retirement board.

If such retiring member should die before receiving in the form of an annuity all of the accumulations up to the time of his disability from his own and the state's annual contributions on his account, the balance shall be paid to his or her legal representatives, as he or she may elect, subject to such rules and regulations as may be prescribed by the retirement board.

SECTION 15. Allowance in Case of Resignation or Dismisal. (1) Any member of the retirement association withdrawing from service in the public schools of the state, by resignation or dismissal, before becoming eligible to retirement under the provisions of this act, shall be entitled to receive from the annuity fund all amounts contributed thereto as assessments, and, if at the time of such withdrawal, such member shall have served in the public schools of the state six years or more, he shall be entitled to receive, in addition, the contributions made by the state on his account as hereinbefore provided.

(2) In case of the death of such member under the circumstances above set forth, the several amounts to which he would be entitled, if living, shall be paid to a surviving husband or wife, or to the legal representatives of such deceased member, as may be elected, subject to the rules and regulations of the retirement board.

(3) In the case of the death or withdrawal from service of such member before the completion of six years of service in the public schools of the state the contributions made by the state on his account, as hereinbefore provided, shall be placed in the reserve fund hereinafter established, for the general purposes of the retirement system.

(4) Contributions returned as above provided shall be paid in lump sums or in installments as the member may elect, subject, however, to such

reasonable rules and regulations as may be prescribed by the retirement board.

SECTION 16. Exemptions. That portion of the salary or wages of a member deducted or to be deducted under this act, the right of a member to an annuity or allowance hereunder, and all his rights in the funds of the retirement system, shall be exempt from taxation, and from the operation of any laws relating to bankruptcy or insolvency, and shall not be attached or taken upon execution or other process of any court. No assignment by a member of any part of such funds to which he is or may be entitled, or of any right to or interest in such funds, shall be valid.

SECTION 17. Administration of Funds.

(1) All funds of the retirement system shall be in the custody and charge of the state treasurer, who shall invest and reinvest such funds as are not required for current disbursements in accordance with the laws of the state governing the investment of the assets of savings institutions.

(2) The state treasurer shall make such payments to the members of the retirement association from the annuity fund as the retirement board shall order to be paid in accordance with the provisions hereof.

(3) On or before the first day of August in each year, the state treasurer shall file with the insurance commissioner and with the secretary of the retirement board a sworn statement exhibiting the financial condition of the retirement system on the thirtieth day of June in each year, and its financial transactions for the year ending on such date. Such statement shall be in the form prescribed by the retirement board, and shall be published with the report of the state treasurer.

SECTION 18. Reserve Fund. A reserve fund is hereby created, to consist of gifts and receipts from sources other than those herein specified, returns to the state of its contributions to the annuity fund as hereinbefore provided, and balances that may accrue on account of interest, savings or otherwise, which fund shall be maintained and used, in the discretion of the retirement board, for unforeseen contingencies, expenses of administration, or any other purpose within the scope of the retirement system.

SECTION 19. Accrued Liabilities Fund. An accrued liabilities fund is hereby created, to consist of the Vermont state teachers' retirement fund, now in the custody of the state treasurer under the provisions of sections 1220 to 1231, inclusive, of the General Laws, of such part of the reserve fund as the retirement board may from time to time transfer thereto, and of such other funds as may be received by the retirement board for the purposes contemplated in this section. Provided, however, that said Vermont teachers' retirement fund shall not become part of the funds of the retirement system as contemplated in this section except upon a vote to that effect of the Vermont state teachers' retirement fund association, duly certified to the retirement board by the president of said association. The accrued liabilities fund shall be drawn upon from time to time by the retirement board as needed to make up the contributions of the state to the retiring and disability allowances provided hereunder. Said funds shall be in all respects subject to the provisions of this act, and to the rules and regulations of the retirement board hereby authorized in respect to custody, investment, audit and disbursement.

SECTION 20. Supervision of Retirement System. The retirement board shall cause the system hereby established to be thoroughly examined by a competent actuary or actuaries, once in every three years, and oftener if deemed necessary, and many call an actuary in consultation at any time; and such board is hereby empowered to change the scale of contributions required of teachers, if deemed advisable as the result of actuarial experience hereunder; but such changes shall not be effective

as to teachers becoming members of the retirement association before the same shall have been made, unless assented to by such members.

SECTION 21. The accounts of the retirement board and the books and accounts of the state treasurer as custodian of the funds of the retirement system, and the cash and securities in his hands representing such funds, shall be examined and audited annually at the time and in the manner prescribed for the annual audit of the accounts of the trustees of the permanent school fund and the accounts of the state treasurer in connection therewith.

SECTION 22. Appropriation. The sum of twenty-five thousand dollars per annum is hereby appropriated to carry out the provisions of this act for the biennial period beginning July 1, 1919.

SECTION 23. Changes in Rules and Regulations. The rules and regulations hereby prescribed for the administration of the retirement system hereby created, shall be subject to change by the retirement board whenever deemed to be for the best interests of the entire body of teachers in the service of the state. The benefits of the retirement system shall be enjoyed by each member of the retirement association so long as he meets all the requirements of this act and complies with all the rules and regulations of the retirement board.

SECTION 24. Sections of General Laws Repealed. Sections one thousand two hundred and twenty to one thousand two hundred and thirty-one, inclusive, of the General Laws are hereby repealed; provided, however, that those provisions of said sections relating to the custody and control of the Vermont state teachers' retirement fund referred to in section twenty of this act shall continue in force until the transfer of said fund to the retirement system as hereinbefore provided.

SECTION 25. This act shall take effect from its passage.

Approved April 8, 1919.

APPENDIX 4

ACTUARIAL TABLES

The tables shown below present part of the foundation upon which some of the recent actuarial systems operate. They may help the reader to understand the elements of actuarial computations. The first three tables may enable him to calculate how much a certain annual contribution will accumulate in the course of years and what annuity it will provide.

The American Experience Tables upon which Massachusetts system operates is based upon the mortality experience of the population at large and makes no distinction between the two sexes as to mortality. The McClintock Experience adopted by Vermont presents the experience of the annuitants of the Home Life Insurance Company. The New York City Teachers' Experience and the New Jersey Teachers' Adopted Experience, which were prepared by Mr. Geo. B. Buck, actuary, probably represent the real mortality of the teachers better than any other table.

In comparing the reserves and annuities under the different tables it must be noted that in the American Experience and McClintock Experience Tables here shown interest was assumed at 3½ per cent as the latter is the interest adopted by Massachusetts and Vermont, whereas the New York City and New Jersey tables are computed at 4 per cent, as 4 per cent is the interest adopted by the New York City and New Jersey systems.

TABLE 1
COMPOUND INTEREST

The amount accumulated by a deposit of $1 paid at the beginning of each year, at various rates of interest after a certain number of years

Year	3%	3½%	4%
1	$ 1.0300	$ 1.0350	$ 1 0400
2	2.0909	2.1062	2.1216
3	3.1836	3.2149	3.2465
4	4.3091	4.3625	4.4163
5	5 4684	5.5502	5 6330
6	6.6625	6.7794	6.8983
7	7 8923	8 0517	8.2142
8	9.1591	9.3685	9.5828
9	10.4639	10.7314	11.0061
10	11.8078	12 1420	12.4864
11	13.1920	13 6020	14 0258
12	14.6178	15 1130	15.6268
13	16.0863	16 6770	17.2919
14	17.5989	18.2957	19.0236
15	19.1569	19.9710	20.8245
16	20.7616	21 7050	22.6975
17	22.4144	23.4997	24.6454
18	24.1169	25 3572	26 6712
19	25.8704	27 2797	28.7781
20	27.6765	29 2695	30.9692
21	29.5368	31.3289	33.2480
22	31.4529	33.4604	35.6179
23	33.4265	35 6665	38.0826
24	35.4593	37 9499	40 6459
25	37.5550	40.3131	43 3117
26	39 7096	42.7591	46 0842
27	41 9309	45.2906	48.9676
28	44 2189	47 9108	51.9663
29	46.5754	50 6227	55 0849
30	49.0027	53.4295	58.3283
31	51.5028	56 3345	61.7015
32	54 0778	59 3412	65.2095
33	56 7302	62.4532	68.8579
34	59.4621	65.6740	72.6522
35	62.2759	69 0076	76.5983
36	65.1742	72.4579	80.7022
37	68 1594	76 0289	84 9703
38	71.2342	79.7249	89.4091
39	74.4013	83.5503	94.0255
40	77.6633	87 5095	98.8265
41	81.0232	91 6074	103.8196
42	84 4839	95.8486	109.0124
43	88.0484	100 2383	114.4129
44	91.7199	104.7817	120.0294
45	95 5015	109.4840	125 8706
46	99.3965	114.3510	131.9454
47	103 4084	119.3883	138.2632
48	107.5406	124.6018	144.8337
49	111.7969	129.9979	151.6671
50	116 1808	135.5828	158.7738

TABLE 2
ANNUITY VALUES
Amount of reserve necessary to provide an annuity of $1.00 at a certain age

Age	American Experience 3½% Interest (adopted by Massachusetts System)	New York City Teachers' Experience 4% Interest	New Jersey Teachers' Adopted Experience 4% Interest	McClintock Experience	
				3½% Interest (adopted by Vermont System)	4% Interest
			MEN		
55	....	$10 23	$10.332	....	$11 915
56	....	10 05	10.125	....	11 615
57	....	9.86	9.914	. ..	11 312
58	....	9.66	9.697	....	11 005
59	....	9.45	9.476	....	10.696
60	$10.66	9 23	9.250	....	10.384
61	10.29	9.01	9 020	....	10.070
62	9.93	8.77	8 786	....	9 754
63	9 57	8.54	8.549	. ..	9.438
64	9.20	8.29	8.309	. ..	9.121
65	8 84	8.04	8.066	$9.0986	8.804
66	8.49	7 79	7.820	8.7617	8.488
67	8.14	7 54	7.573	8.4269	8.173
68	7.79	7.28	7.324	8.0946	7.859
69	7.44	7.02	....	7.7654	7.548
70	7.10	6.76	....	7.4400	7.239
			WOMEN		
55	....	$12.83	$12 823	....	$13 296
56	....	12.56	12.537	....	12.985
57	.. .	12.28	12.246	....	12 671
58	....	11.99	11.950	....	12.352
59	....	11.70	11.650	..	12 030
60	$10.66	11 39	11 347	$12.2198	11.705
61	10 29	11.08	11 040	11.8630	11.377
62	9.93	10.76	10.731	11.5045	11.046
63	9.57	10.43	10.419	11 1450	10.714
64	9.20	10.10	10.105	10.7850	10 381
65	8.84	9.76	9 789	10 4245	10 046
66	8.49	9.42	9 472	10 0647	9 711
67	8.14	9.08	9.155	9.7060	9.376
68	7.79	8.73	8.838	9 3489	9.042
69	7.44	8 39	....	8 9943	8 709
70	7.10	8.04	....	8.6424	8.378

Table 3

Annuities Purchased by Accumulated Contributions of Certain Amounts at Certain Ages According to the New Jersey Teachers' Adopted Experience and on the Basis of Interest at 4 Per cent

Age	Accumulated Contributions of								
	$100	$150	$200	$250	$300	$350	$400	$450	$500
					MEN				
55	$9.68	$14.52	$19.36	$24.20	$29.04	$33.88	$38.72	$43.56	$48.40
56	9.88	14.82	19.76	24.70	29.64	34.58	39.52	44.46	49.40
57	10.08	15.12	20.16	25.20	30.24	35.28	40.32	45.36	50.40
58	10.32	15.48	20.64	25.80	30.96	36.12	41.28	46.44	51.60
59	10.56	15.84	21.12	26.40	31.68	36.96	42.24	47.52	52.80
60	10.82	16.23	21.64	27.05	32.46	37.87	43.28	48.69	54.10
61	11.08	16.62	22.16	27.70	33.24	38.78	44.32	49.86	55.40
62	11.38	17.07	22.76	28.45	34.14	39.83	45.52	51.21	56.90
63	11.70	17.55	23.40	29.25	35.10	40.95	46.80	52.65	58.50
64	12.04	18.06	24.08	30.10	36.12	42.14	48.16	54.18	60.20
65	12.40	18.60	24.80	31.00	37.20	43.40	49.60	55.80	62.00
66	12.78	19.17	25.56	31.95	38.34	44.73	51.12	57.51	63.90
67	13.20	19.80	26.40	33.00	39.60	46.20	52.80	59.40	66.00
68	13.66	20.49	27.32	34.15	40.98	47.81	54.64	61.47	68.30
69	14.14	21.21	28.28	35.35	42.42	49.49	56.56	63.63	70.70
70	14.66	21.99	29.32	36.65	43.98	51.31	58.64	65.97	73.30
					WOMEN				
55	$7.80	$11.70	$15.60	$19.50	$23.40	$27.30	$31.20	$35.10	$39.00
56	7.98	11.97	15.96	19.95	23.94	27.93	31.92	35.91	39.90
57	8.16	12.24	16.32	20.40	24.48	28.56	32.64	36.72	40.80
58	8.36	12.54	16.72	20.90	25.08	29.26	33.44	37.62	41.80
59	8.58	12.87	17.16	21.45	25.74	30.03	34.32	38.61	42.90
60	8.82	13.23	17.64	22.05	26.46	30.87	35.28	39.69	44.10
61	9.06	13.59	18.12	22.65	27.18	31.71	36.24	40.77	45.30
62	9.32	13.98	18.64	23.30	27.96	32.62	37.28	41.94	46.60
63	9.60	14.40	19.20	24.00	28.80	33.60	38.40	43.20	48.00
64	9.90	14.85	19.80	24.75	29.70	34.65	39.60	44.55	49.50
65	10.22	15.33	20.44	25.55	30.66	35.77	40.88	45.99	51.10
66	10.56	15.84	21.12	26.40	31.68	36.96	42.24	47.52	52.80
67	10.92	16.38	21.84	27.30	32.76	38.22	43.68	49.14	54.60
68	11.32	16.98	22.64	28.30	33.96	39.62	45.28	50.94	56.60
69	11.74	17.61	23.48	29.35	35.22	41.09	46.96	52.83	58.70
70	12.18	18.27	24.36	30.45	36.54	42.63	48.72	54.81	60.90

TABLE 3—(Continued)
ANNUITIES PURCHASED BY ACCUMULATED CONTRIBUTIONS OF CERTAIN AMOUNTS AT CERTAIN AGES ACCORDING TO THE NEW JERSEY TEACHERS' ADOPTED EXPERIENCE AND ON THE BASIS OF INTEREST AT 4 PER CENT

Age	Accumulated Contributions of								
	$550	$600	$650	$700	$750	$800	$850	$900	$950
	MEN								
55	$53.24	$58.08	$62.92	$67.76	$72.60	$77.44	$82.28	$87.12	$91.96
56	54.34	59.28	64.22	69.16	74.10	79.04	83.98	88.92	93.86
57	55.44	60.48	65.52	70.56	75.60	80.64	85.68	90.72	95.76
58	56.76	61.92	67.08	72.24	77.40	82.56	87.72	92.88	98.04
59	58.08	63.36	68.64	73.92	79.20	84.48	89.76	95.04	100.32
60	59.51	64.92	70.33	75.74	81.15	86.56	91.97	97.38	102.79
61	60.94	66.48	72.02	77.56	83.10	88.64	94.18	99.72	105.26
62	62.59	68.28	73.97	79.66	85.35	91.04	96.73	102.42	108.11
63	64.35	70.20	76.05	81.90	87.75	93.60	99.45	105.30	111.15
64	66.22	72.24	78.26	84.28	90.30	96.32	102.34	108.36	114.38
65	68.20	74.40	80.60	86.80	93.00	99.20	105.40	111.60	117.80
66	70.29	76.68	83.07	89.46	95.85	102.24	108.63	115.02	121.41
67	72.60	79.20	85.80	92.40	99.00	105.60	112.20	118.80	125.40
68	75.13	81.96	88.79	95.62	102.45	109.28	116.11	122.94	129.77
69	77.77	84.84	91.91	98.98	106.05	113.12	120.19	127.26	134.33
70	80.63	87.96	95.29	102.62	109.95	117.28	124.61	131.94	139.27
	WOMEN								
55	$42.90	$46.80	$50.70	$54.60	$58.50	$62.40	$66.30	$70.20	$74.10
56	43.89	47.88	51.87	55.86	59.85	63.84	67.83	71.82	75.81
57	44.88	48.96	53.04	57.12	61.20	65.28	69.36	73.44	77.52
58	45.98	50.16	54.34	58.52	62.70	66.88	71.06	75.24	79.24
59	47.19	51.48	55.77	60.06	64.35	68.64	72.93	77.22	81.51
60	48.51	52.92	57.33	61.74	66.15	70.56	74.97	79.38	83.79
61	49.83	54.36	58.89	63.42	67.95	72.48	77.01	81.54	86.07
62	51.26	55.92	60.58	65.24	69.90	74.56	79.22	83.88	88.54
63	52.80	57.60	62.40	67.20	72.00	76.80	81.60	86.40	91.20
64	54.45	59.40	64.35	69.30	74.25	79.20	84.15	89.10	94.05
65	56.21	61.32	66.43	71.54	76.65	81.76	86.87	91.98	97.09
66	58.08	63.36	68.64	73.92	79.20	84.48	89.76	95.04	100.32
67	60.06	65.52	70.98	76.44	81.90	87.36	92.82	98.28	103.74
68	62.26	67.92	73.58	79.24	84.90	90.56	96.22	101.88	107.54
69	64.57	70.44	76.31	82.18	88.05	93.92	99.79	105.66	111.53
70	66.99	73.08	79.17	85.26	91.35	97.44	103.53	109.62	115.71

TABLE 4
EXPECTATION OF LIFE
(Number of years persons of certain age would on the average live thereafter)

Age	American Experience (adopted by Massachusetts System)	New York City Teachers' Experience	McClintock Experience
		MEN	
55	17.40	14.76	17.79
56	16.72	14.37	17.14
57	16.05	13.96	16.50
58	15.39	13.55	15.88
59	14.74	13.13	15.26
60	14.10	12.70	14.65
61	13.47	12 28	14.05
62	12 86	11.84	13.46
63	12.26	11.41	12.88
64	11.67	10.98	12.31
65	11.10	10.55	11.76
66	10.54	10.12	11.22
67	10 00	9.70	10.69
68	9.47	9.28	10.17
69	8.97	8.86	9.67
70	8.48	8.45	9.18
		WOMEN	
55	17.40	19.78	20.77
56	16.72	19.13	20.04
57	16.05	18.49	19.32
58	15.39	17.84	18.61
59	14.74	17.20	17.91
60	14.10	16.55	17.22
61	13.47	15.91	16.54
62	12.86	15.27	15.87
63	12.26	14.64	15 22
64	11.67	14 01	14.57
65	11.10	13.38	13.94
66	10.54	12.77	13 33
67	10.00	12.16	12.72
68	9.47	11.57	12.14
69	8.97	10.99	11.56
70	8.48	10.43	11.00

TABLE 5

RATE OF MORTALITY

Age	American Experience (adopted in the Massachusetts System)	New York City Teachers' Experience	New Jersey Teachers' Adopted Experience	McClintock Experience (adopted by the Vermont System)
MEN ANNUITANTS				
55	.0186	.0407	.0377	.0201
56	.0199	.0411	.0387	.0213
57	.0213	.0418	.0399	.0227
58	.0229	.0426	0412	.0241
59	.0247	.0436	.0426	.0258
60	0267	.0448	.0441	.0275
61	.0289	.0460	0458	.0294
62	.0313	.0476	.0477	.0315
63	0339	.0494	.0497	.0338
64	.0369	.0516	.0519	.0364
65	0401	.0538	.0543	.0391
66	.0437	.0566	.0569	.0421
67	.0476	.0593	.0599	.0454
68	.0520	.0626	.0630	.0490
69	.0568	.0660	.0665	.0529
70	.0620	.0698	.0702	.0572
WOMEN ANNUITANTS				
55	.0186	.0181	.0169	.0132
56	.0199	0187	.0178	0141
57	.0213	.0194	.0188	.0151
58	.0229	.0201	.0199	.0163
59	.0247	.0209	.0212	0175
60	.0267	.0218	.0225	.0188
61	.0289	.0229	.0239	.0203
62	.0313	.0240	.0255	.0219
63	.0339	.0255	.0273	.0237
64	0369	.0271	.0292	.0256
65	.0401	.0290	.0313	.0277
66	.0437	.0312	.0335	.0300
67	.0476	.0337	.0361	.0326
68	.0520	.0366	.0388	.0353
69	.0568	.0399	.0418	.0384
70	.0620	.0436	.0450	.0417

TABLE 6

NEW JERSEY TEACHERS' ADOPTED ACTIVE SERVICE EXPERIENCE

Showing how many from an initial number of 100,000 teachers entering the service at the age of 18 would withdraw through resignation or dismissal, become disabled or die each year, and how their salaries would advance on the average each year.

MEN

Age	Living	Withdrawing	Disabled	Dead	Salary Scale
18	100,000	2,080	50	240	530
19	97,630	2,148	49	244	615
20	95,189	2,361	48	247	694
21	92,533	2,378	46	259	772
22	89,850	2,363	45	261	849
23	87,181	2,310	43	262	920
24	84,566	2,224	42	271	990
25	82,029	2,114	41	273	1,060
26	79,601	1,994	39	275	1,130
27	77,293	1,861	41	278	1,200
28	75,113	1,712	43	281	1,270
29	73,077	1,572	44	284	1,330
30	71,177	1,442	45	285	1,390
31	69,405	1,307	46	285	1,450
32	67,767	1,170	47	281	1,510
33	66,269	1,057	48	280	1,560
34	64,884	952	49	277	1,605
35	63,606	859	50	274	1,650
36	62,423	758	51	271	1,695
37	61,343	672	52	270	1,735
38	60,349	582	53	270	1,775
39	59,444	508	54	270	1,812
40	58,612	435	58	269	1,845
41	57,850	366	59	269	1,875
42	57,156	309	62	269	1,905
43	56,516	254	68	271	1,935
44	55,923	213	78	274	1,965
45	55,358	177	83	277	1,990
46	54,821	148	93	285	2,015
47	54,295	119	98	288	2,040
48	53,790	97	107	296	2,065
49	53,290	80	117	304	2,085
50	52,789	58	132	317	2,105
51	52,282	42	147	324	2,125
52	51,769	26	160	336	2,145
53	51,247	15	179	354	2,165
54	50,699	....	198	370	2,180
55	50,131	....	221	391	2,195
56	49,519	....	243	411	2,205
57	48,865	....	274	435	2,215
58	48,156	....	304	462	2,225
59	47,390	....	341	493	2,235
60	46,556	....	382	521	2,245
61	45,653	....	438	549	2,250
62	44,666	....	491	581	2,255

TABLE 6—(Continued)
WOMEN

Age	Living	Withdrawing	Disabled	Dead	Salary Scale
18	100,000	260	50	110	513
19	99,580	628	50	119	528
20	98,783	1,216	49	128	543
21	97,390	2,084	49	136	566
22	95,121	3,025	48	152	592
23	91,896	5,182	47	165	622
24	86,502	6,233	47	173	659
25	80,049	6,086	46	184	699
26	73,733	5,678	44	184	740
27	67,827	5,098	44	190	780
28	62,495	4,481	44	187	815
29	57,783	3,862	44	185	845
30	53,692	3,302	43	177	870
31	50,170	2,749	40	171	890
32	47,210	2,224	42	165	910
33	44,779	1,760	45	161	930
34	42,813	1,364	45	154	950
35	41,250	1,081	45	149	970
36	39,975	863	48	148	990
37	38,916	688	51	152	1,000
38	38,025	605	61	152	1,010
39	37,207	495	108	156	1,020
40	36,448	405	164	160	1,030
41	35,719	321	229	164	1,040
42	35,005	256	308	168	1,050
43	34,273	189	353	171	1,055
44	33,560	144	369	178	1,060
45	32,869	112	371	184	1,065
46	32,202	90	367	190	1,070
47	31,555	72	360	196	1,080
48	30,927	59	352	204	1,085
49	30,312	54	346	212	1,090
50	29,700	47	339	223	1,095
51	29,091	43	332	233	1,100
52	28,483	40	325	242	1,110
53	27,876	36	318	254	1,115
54	27,268	35	311	265	1,120
55	26,657	29	304	277	1,130
56	26,047	26	297	292	1,140
57	25,432	23	290	305	1,145
58	24,814	22	283	320	1,150
59	24,189	19	276	336	1,160
60	23,558	14	269	353	1,165
61	22,922	11	262	371	1,175
62	22,278	9	254	390	1,180

TABLE 7
NEW JERSEY TEACHERS' ADOPTED RETIREMENT EXPERIENCE
Number of teachers among those eligible to retirement who would die or retire during the year and the number among them who would be living at the beginning of the next year

Age	Living	Dead	Retirements
MEN			
60	52,295	593	3,906
61	47,796	642	3,828
62	43,326	673	3,744
63	38,909	700	3,623
64	34,586	719	3,462
65	30,405	711	3,299
66	26,395	677	3,141
67	22,577	643	3,003
68	18,931	602	3,114
69	15,215	514	3,652
70	11,049	398	10,651
WOMEN			
60	24,270	364	3,174
61	20,732	335	2,944
62	17,453	305	2,740
63	14,403	272	2,550
64	11,586	237	2,317
65	9,032	200	2,068
66	6,764	162	1,826
67	4,776	124	1,567
68	3,085	87	1,333
69	1,665	51	1,091
70	523	17	506

APPENDIX 5

BIBLIOGRAPHY

TEACHERS' PENSION SYSTEMS IN THE UNITED STATES

Contents

NOTE.—References to laws, reports and descriptive accounts of individual systems are listed in Appendix 2.

BIBLIOGRAPHIES

NOTE.—Many of the references on pensions given in the Bibliographies listed below have been incorporated in the present one. Publications of special importance are indicated by an asterisk.

1 Nelson, C. A. *comp.* Bibliography of teachers' salaries and pensions. Educational review, Jan., 1907, v. 33: 24-35.
[A list containing 27 references on teachers' pensions together with an extended reference list on teachers' salaries.]

2 Prosser, C. A. Bibliography (*In his* The teacher and old age. Boston, 1913. p. 121-34).
[A list of 48 references on teachers' pensions, social insurance and the economic condition of the teaching profession.]

3 U. S. *Bureau of education. Library.* List of references on teachers' pensions. June 1914. 7 p.
[Contains 51 references on U. S. pensions, 21 references on college professors' pensions and 35 references on foreign pensions.]

4 —— *Library of Congress. Divsion of bibliography.* Select list of references on teachers' pensions. 6 numb. l (typewritten).
[Contains 60 references on teachers' pensions.]

DISCUSSION OF PENSION PRINCIPLES

5 Allen, Elizabeth A. Birth of the teachers' pension movement in the United States. Address before the Connecticut teachers' association. (*In* Connecticut. Board of education. Report. Hartford, 1903. p. 291-303. Pub. doc. no. 8.)
[Contains a history of the New Jersey retirement fund; discussion of purposes of pensions; objections of old and young teachers; fund not a charity; appeal to the Connecticut teachers.]

6 —— Teachers' pensions—the story of a woman's campaign. Review of reviews (N. Y.) June, 1897, v. 15: 700-11.
[Describes the campaign which resulted in the establishment of the New Jersey teachers' retirement fund; surveys the existing pension funds in the United States; presents a comparative table of annuity and aid associations and retirement funds in the United States.]

7 Ames, Charles L. Pensions for public school teachers [Hartford ? 1912] 16 p.
[Address before the Connecticut Women's council of education at Hartford, May 4, 1912.]

8 Association of American universities. The best means of introducing the pension system into American universities. Discussion. (*In its* Journal of proceedings and addresses of eighth annual conference, 1907, p. 64-71.)

9 Best, Lyman A. Teachers' retirement fund. Address given at Washington, January 16, 1909, before the College women's club. [Washington, Govt. print. off., 1910] 9 p. ([U. S.] 61st Cong., 2d sess. Senate. Doc. 541.)
[Contains a discussion of the purposes of teachers' pensions and a history of the New York City Teachers' retirement fund.]

10 Bradford, Mary D. Teachers' pensions and insurance. Journal of education, May 11, 1905, v. 61; 512-13.
[Describes the origin and development of pension and insurance movement among the teachers in the United States.]

11 Carnegie foundation for the advancement of teaching. Annual reports. [Articles on pensions.]
I, 1906, p. 33-36. (Consideration of general policy. What is the value of a pension system? right, not charity.)
III, 1908, p. 50-51. (Cost of maintaining a retirement allowance system.)
IV, 1909, p. 57-80. (The working of the rules for retirement; why college teachers retire; age and service; obligations in life insurance.)
VI, 1911, p. 22-23. (The moral influence of a pension system; favors contributory systems; obligations of colleges.)
VII, 1912, p. 59-87. (Contributory and non-contributory pension systems. Subsistence and stipendiary pensions. A feasible pension system —six years of experience.)

12 *—— A comprehensive plan of insurance and annuities for college teachers, by H. S. Pritchett, 1916. 67 p. (*Its* Bulletin no. 9.)
Contents: Pensions and annuities. The origin and social philosophy of pension systems. Justification for college teachers. Life hazards. Responsibility. Functions and possibilities of life insurance. Are pensions wages. Accrued liabilities. Risk of disability. The teachers' cooperation. The desires of teachers.

12a *—— Pensions for public school teachers. By Clyde Furst and I. L. Kandel. Bulletin no. 12, 1918. 85 p.
Contents: The social philosophy of pensions. Fundamental principles, present status. A system suggested for Vermont. Tabular statement. Summary. Brief bibliography.

13 Cattell, J. McKeen. The Carnegie foundation for the advancement of teaching. Science, April 2, 1909, n.s. v. 29: 532-9.
[Writer objects to the age condition and to the centralized fund; advocates disability and widows' pensions; predicts insufficiency of income.]

14 Clark, John E. Shall teachers be pensioned? (*In* National education association. Journal of proceedings and addresses, 1896. p. 988-96.)

[Urges teachers to establish retirement funds and take part in the movement; states examples of foreign pension systems.]

15 Federation of teachers' associations, city of New York. The A.B.C. of teachers' pensions. [Memorandum submitted to the Senate committee of cities in favor of the Lockwood Ellenbogen bill.] 1916. 20 p.
[Contains a discussion of the compulsory feature; contributions; objections to flat pensions; contributions of younger teachers not to be used for pensions of older teachers.]

16 Gray, Ernest. Teachers' pensions. Contemporary review, March, 1894. v. 65; 453-6.
[Defends the new pension system in England; state system better than local; reply to W. A. Hunter's article.]

17 "Great Britain. *Departmental committee on the superannuation of teachers.* Report of the Committee on the 2nd reference. London, 1914. 42 p. Parliamentary Doc. 1914, v. 25. Cd. 7365.
Contents: Conditions to which a system ought to conform, p. 16; main recommendations, p. 19-22; notes of dissent by Lord Farrer favoring a minimum subsistence pension and by Mr. H. Fitzherbert Wright, M. P. favoring the Scottish teachers' pension fund plan, p. 39-42.

18 *—— *Parliament. House of commons. Select committee on school board for London (superannuation) bill.* Report, together with proceedings of the Committee, minutes of evidence and appendices. London, 1891. 167 p. (Parliamentary doc. 1890-91, v. 17.)
[P. VII-XI contain criticism of various pension provisions; p. 77-102, testimony of actuary Sutton re financial soundness of pension system.]

19 *—— —— —— *Select committee on the elementary education (teachers' superannuation) bill.* Report, proceedings of the Committee, minutes of evidence and appendices. London, 1892. 142 p. (Parlimentary doc. 1892, v. 12).
[Of marked importance in considering pension principles are pages 1 to XXVII which contain the con-

clusions of the commission and a summary of testimony.]
20 Grote, Koll. Ein Soziales Pensionssystem. Pädagogische Zeitung, May 29, 1913, v. 42: 415-17.
[Discussion of the question of married teachers receiving pensions different in amount from the unmarried.]
21 Gunther, A. Staatshilfe and Selbsthilfe in der hinterbliebenenversorgung der deutschen lehrer. *In* Pädagogische Zeitung, Nov. 24 and Dec. 1, 1910, v. 39: 1109-13; 1133-37.
[Discusses, from a social point of view, the basic principles of widows' pensions.]
22 Harris, W. T. Shall teachers be pensioned? A symposium. Journal of education, April 2, 1891, v. 33: 211-14.
23 Hendrick, Burton J. "The superannuated man." Labor pensions and the Carnegie Foundation. McClure's magazine, December, 1908, v. 32: 115-27.
24 Hunter, W. A. Superannuation of elementary teachers. Contemporary review, Jan. 1894, v. 65: 84-95.
the arguments in favor of teachers pensions; annuities should be smaller; local authorities, not state, should pay pensions.]
25 *Hutcheson, Wm. A. Report by actuary upon the condition of the New York public school teachers' retirement fund. (*In* New York (City) Board of Education. Sixth annual report of the secretary of the Board of retirement. 1913).
Reprinted by the Globe in a separate pamphlet entitled "The Teachers' pension law." Oct. 1, 1913. 40 p.
[Describes principles underlying actuarial scheme, actuarial methods of calculating contribution and constructing mortality tables.]
26 Jastrow, Joseph. Advancement of teaching. North American review, October, 1907, v. 186: 213-24.
[Exclusion of state universities from the benefits of the Carnegie foundation.]
27 —— Carnegie foundation and its service pensions. Science, March 11, 1910, n.s. v. 31: 370-6.
28 Keyes, Charles H. Teachers' pensions. (*In* National

educational association of the United States. Journal of proceedings and addresses, 1907, p. 103-8.)
[Discusses five reasons why pensions should be provided for teachers.]

29 Krueger, H. Pensioning of teachers. Journal of education (Boston) March 2, 1905, v. 61: 230.
[A brief address reviewing pension systems in the United States.]

30 Lovejoy, Arthur O. The metamorphosis of the Carnegie foundation. Science, April 11, 1913, n.s. v. 37: 546-52.
[Criticizes the Carnegie foundation's pension policy.]

31 Macnamara, T. J. The superannuation of state school teachers. Westminster review, June, 1893, v. 139: 623-35.
[Contains a history of teachers' pensions in England; criticizes the new system because of absence of benefits for those who die.]

32 Manley, Edward. Compulsory insurance for teachers. Educational review, Feb., 1902, v. 23: 152-7.
[Writer objects to compulsory insurance and deductions from salary; condemns annuities on the ground that they are secured at the expense of those who resign or die.]

33 Massachusetts. *Board of education.* Special report on teachers' retirement allowances [Boston] 1913. 48 p. [House Doc. 1913, no. 1926.]
[Discussion in first eleven pages of the essential principles of a sound pension system.]

34 *—— *Commission on old age pensions, annuities and insurance.* Report. Boston, 1910. 409 p. (House Doc. no. 1400.)
[Pages 77-79 and Chapters V, VIII and IX contain a discussion of old-age pension principles; origin of the problem; contributory vs. non-contributory pensions; voluntary vs. compulsory insurance; universal vs. partial schemes; relation to wages and poor relief.]

35 *—— *Commission on pensions.* Report. Boston, 1914. 345 p. (House Doc. no. 2450.)
[Chapters II and V contain a discussion of the pension problem; the merits of assisted insurance and compulsory savings vs. gratuities and free pensions.]

36 *Meriam, Lewis. Principles governing the retirement of public employees. New York, D. Appleton and company, 1918. 476 p. (Institute for government research. Principles of administration.)
["In this book the author deals with the whole subject of public policy governing the establishment of pension systems. The social, economic, administrative and financial problems involved are considered and much attention is given to the specific objections that have been urged against retirement legislation.]

36a *New Jersey Bureau of state research of the state chamber of commerce. Teachers' retirement systems in New Jersey, their fallacies and evolution. Report prepared by Paul Studensky, Supervisor of the pension staff. December, 1918. 88 p.
Contents: Evolution of the systems. Present condition and practical remedies [Contains aslo chapters on the fundamental fallacies common to most of the retirement systems in this country and on the fundamental principles of a sound retirement system].

36b New Jersey pension and retirement fund commission. Preliminary report. State research, Consecutive no. 9, 1918. 20 p. [A brief analysis of the unsound features of the teachers' and other retirement systems in New Jersey. A discussion of the principles of sound pension financing.]

36c * ——Reorganization of the New Jersey Teachers' Retirement Systems. State Research, Consecutive no. 13. 1919. 28 p.
Contents: Present systems and their reorganization—A critical and constructive study. Contents of proposed legislation—An act providing for the establishment of a new fund on an actuarial basis. Actuarial estimates—Cost of existing systems and of proposed plan.

37 *New York (City) *Commission on pensions.* Report on the teachers' retirement fund, city of New York. 1915. [New York, The Trow press, 1916.] 177 p. [Letter of submittal and chapters II and VI contain critical and constructive discussions of the principles of various pension provisions and questions of cost.]

38 *—— Report on the pension funds of the city of New York. Part I. Operation of the nine existing pension funds. [New York, J. J. Little and Ives co.] 1916. 171 p.
[Chapters II and IV contain criticism of benefits, principles to be considered in reorganization plan, and summary of conclusions.]

38a * —— Report on the pension funds of the city of New York, Part III, 1918. 151 p. [Contains the proposed retirement plan covering all branches of municipal service, and a discussion of its underlying principals.]

39 Patten, S. N. Are pensions for college teachers a form of socialism? Science, May 22, 1908, n.s. v. 27; 822-4.

40 Pensions and the learned professions. Science, Nov. 24, 1911, v. 34; 715-17.
[Criticizes the pension policy of the Carnegie foundation.]

41 Peters, Michael. The mischief of pensions. Gentlemen's magazine (London) Aug., 1907, v. 303: 113-19.
[Writer attacks pensions on the ground that they "inflict certain moral injury on the character of the individual as well as a very practical injury on the business."]

42 Pritchett, Henry S. Moral influence of a university pension system. Popular science monthly, Nov., 1911, v. 79: 502-13.

42a —— The pension problem and its solution. Atlantic monthly. December, 1918. p. 737-43. (A brief discussion of the principles underlying the new Carnegie pension plan.)

43 —— A pension system for public schools. Independent, March 20, 1913, v. 74: 617-21.
[The director of the Carnegie foundation discusses the justification of teachers' pensions. Who ought to pay them? What form of pension system would it be fair to adopt? What will a feasible pension system cost?]

44 —— Ten years of college pensions. Independent, Sept. 13, 1915, v. 83:361-3.

45 Prosser, C. A. Teachers' annuities and retirement allow-

ances. Journal of education (Boston) Dec. 28, 1911, v. 74; 683-84; Jan. 4, 1912, v. 75: 6-8.
[Writer discusses the justification of teachers' annuities on the ground of health risk, financial risk and inadequacy of wages; should the teachers contribute? How will they benefit? Will their wages be depressed? Should the public contribute? Should refunds be provided? Against what risks of life should compulsory insurance be provided?]

46 —— The teacher and old age. Boston, Houghton Mifflin company, 1913. 139 p. (Riverside educational monographs.)
[Chapters II, III and IV contain a discussion of teachers' pensions in the light of social insurance principles; a part of the expense of the retirement allowance should be borne by the beneficiary; withdrawal equity; questions of cost; characteristics of a model retirement law]

47 Reichenbach. The superannuation of teachers. Education, March, 1896, v. 16: 385-95.

48 Shall teachers be pensioned? A symposium. Journal of education (Boston) April 2, 1891, v. 33: 211-14.

49 *Sies, R. W. Teachers' pension systems in Great Britain. Washington, Govt. print. off., 1913. 88p. (U. S. Bureau of education. Bulletin 1913, no. 34)
[Writer regards pensions as deferred pay, favors non-contributory pension systems, and direct relation of pension to salary, and considers accumulation of reserve fund unnecessary. See p. 70-84]

50 Smith, Anna Tolman. Teachers' salaries and pensions. Educational review, Nov., 1891, v. 2: 335-46.
[Urges the establishment of teachers' pension systems in the United States; describes pension systems in various countries]

51 *Studensky, Paul. The pension problem and the philosophy of contributions. New York, 1917. 16 p. May be obtained from the Bureau of Municipal Research, 261 Broadway, New York City.
[Shall the employer, the employee, or both, bear the cost of the system?]

51a —— A sound municipal pension act and central supervision of all pension funds in New Jersey. 'New Jersey' Vol. VI, no. 1, October, 1918. 8 p. [An outline and discussion of the features of the bill proposed by the New Jersey pension and retirement fund commission.]; also Legisl. Index 1919 nos. 8 and 10.

51b —— *Teachers' retirement systems in New Jersey, their fallacies and evolution (see under item 36a).

51c —— Scientific reorganization of the New Jersey teachers' pension systems. Legislative index, 1919, nos. 2, 6 and 9.

51d —— New York City teachers' retirement fund. National municipal review, July, 1916, p. 520-22.

52 Teachers' pensions. Gunton's magazine, June, 1898, v. 14: 393-6.
[Discusses purposes of pensions and argues against salary deductions]

53 Temple, Richard. Superannuation of elementary teachers. Fortnightly review, April, 1893, n.s. v. 53: 477-89.
[Describes history of the English system; two-fold purposes of pensions; joint contributions; age and disability; future charges]

54 Tews, J. Ein soziales pensionssystem. Pädagogische zeitung, June 12, 1913, v. 42: 455-6.
[Writer argues that married teachers should receive pensions different in amount from the unmarried]

55 Tupper, Frederick A. A retirement fund for teachers. Boston, New England publishing co., 1906. 54 p.

56 Winship, A. E. Teachers' pensions and annuities. Journal of education, Sept. 23, 1909, v. 70: 283-4.
[Urges the establishment of pension systems; discusses the thrift argument and the inadequacy of teachers' salary; public must help]

GENERAL DESCRIPTIONS OF PENSION SYSTEMS IN THE UNITED STATES

Note: for material on individual pension systems, see Appendix I.

57 Carnegie foundation for the advancement of teaching. Annual reports.
[Articles on pensions]
I, 1906. History of teachers' pensions, p. 31-38; Pensions for widows of professors, p. 50-51.
III, 1908. Cost of maintaining a retirement allowance system in a college, p. 50-53. Administration of the retiring allowance system in tax-supported institutions, p. 64-73.
V, 1910. The establishment of retiring allowance systems by Haverford College and Brown University, p. 32-34.
VII, 1912. Pension systems, p. 23-44.
VIII, 1913. Supplementary pension systems maintained by associated colleges; new pension systems, p. 33-47.
IX, 1914. Pensions for public school teachers; state and local systems, p. 21-44.
X, 1915. Pensions for public school teachers; state systems, p. 49-63; pensions for university professors, p. 63-65; tabular statement of teachers' pension systems, p. 86-99; summary of teachers' pension funds, p. 100-102.
XI, 1916. Pensions for public school teachers, p. 109-17.
XII, 1917. Pension systems, p. 87-100.

58 Chicago. *Board of trustees of the public school teachers' retirement fund.* A synopsis of the pension laws of states and cities of the United States. Dec. 26, 1910. 15 p. [Contains brief descriptions of pension systems of three states and twenty cities; data now obsolete.]

59 Eliot, C. W. *and others.* The best means of introducing the pension system into American universities. (*In* Association of American universities. Journal of proceedings and addresses, 1906. p. 64-71.)

60 Hamilton, W. I. Comparative table of state insurance systems for teachers in the United States. Journal of education, June 19, 1913, v. 77; 705; July 3, 1913, v. 78: 20.

61 Henderson, C. R. Pensions for public school teachers. American journal of sociology, May 1908, v. 13: 846-54.
[Brief description of several systems existing in United States in 1908.]

62 Hood, William R. Teachers' pension laws in the United States. (*In* National education association of the United States. Committee on teachers' salaries and cost of living, 1913. Report. Ann. Arbor, 1913. p. 266-328.)

63 Keyes, C. H. "Teachers' pensions." (*In* National education association of the United States. Journal of proceedings and addresses, July, 1907. p. 103-108.)

64 Massachusetts. *Board of education.* Pensions for teachers. (*In its* 70th annual report, 1905-1906. Boston, 1907. p. 13-14 and 325-26.)
[A description of pensions in Harvard university, Boston, and Massachusetts; arguments in favor of pensions.]

65 —— —— Special report on teachers' retirement allowances. [Boston] 1913. 48 p. (House. Doc. 1913, no. 1926.)
[Comparative table of teachers' pension systems in the United States, p. 33-41.]

66 —— *Commission on pensions.* Report, March 16, 1914. Boston, 1914. 345 p. (House Doc. 1914, no. 2450.)
[An investigation of all pension systems existing in Massachusetts and constructive recommendations; comparative tables describing pension systems for policemen, firemen, teachers and judges in the states and cities of the United States.]

67 National education association of the United States. Report of Committee on salaries, tenure and pensions of public school teachers in the United States. (*In its* Report, July, 1905. p. 177-84.)
[Brief description of pension laws in force in 1905.]

68 New Jersey. Alliance of women teachers. Public school teachers' retirement systems in the United States. September, 1918. 110 p. [A synopsis of retirement laws.]

69 Prosser, C. A. The teacher and old age. Boston, Houghton Mifflin company, 1913. 139 p. (Riverside educational monographs.)
[Chapter II and appendices contain a statement of the present extent of teachers' pensions and annuities in the United States; comparative table of state compulsory insurance systems for teachers in the United States.]

70 Sies, R. W. *and* Elliott, E. C. Teachers' pensions. (*In* Cyclopedia of education, ed. by Paul Monroe. New York, 1913. p. 635-40.)
[Classification of the systems in the United States into private voluntary, quasi public, semi-public, public.]

71 Smith, A. Tolman. Teachers' salaries and pensions. Educational review, Nov., 1891, v. 2: 335-46.
[Urges the establishment of teachers' pension systems in the United States; describes the pension systems of several countries.]

72 The teachers' retirement fund. Journal of education, Feb. 21, 1907, v. 65: 202-3.
[A brief description of pension funds in Philadelphia and other cities.]

73 U. S. *Bureau of education.* Annual reports.
[Articles on pensions.]
1895, v. 1, p. 1079-1102. (Description of early mutual benefit associations in Boston and other places. Full text of laws and constitutions governing pension funds of California, Chicago, Detroit, Philadelphia, New York.)
1899, v. 2, p. 1478-81. (Extracts from Chicago and Cincinnati reports.)
1902, v. 2, p. 2369-74.
1903, v. 2, p. 2449-52.
1904, v. 2, p. 2281-85.
1906, v. 1, p. 215-20.
1907, v. 1, p. 448-56. (Reports of Boston, New Jersey and Cincinnati funds.)
1908, v. 1, p. 104-105. (Brief description of 1908 laws of Massachusetts and Virginia.)
1909, v. 1, p. 117-121. (Brief description of the 1909 laws of Minnesota and Nebraska, the pension sys-

tems of Harrisburg and Virginia, and the pension bill for the District of Columbia.)

1911, v. 1, p. 96-100. (Brief description of pension laws of 1911, of New York, Ohio, Pennsylvania, Illinois and Kansas.)

1912, v. 1, p. 65-68, 151-52. (Brief description of pension systems of Arizona, Virginia, Maryland, New Jersey, New York; list of states having pension systems in 1912.)

1913, v. 1, p. 913-916. (Brief description of new pension laws of Massachusetts, California, New Jersey and Maine.)

74 —— Bulletins of the Bureau of education.

[Articles on teachers' pensions.]

1913, no. 55. Teachers' pensions, p. 137-54. (Contains a digest of pension laws in force in 1913.)

1915, no. 47. Teachers' pensions, p. 447-65. (Contains a digest of pension laws in force Jan. 1, 1915; dates of laws not given.)

1916, no. 14. State pension systems for public school teachers, prepared for the Committee on teachers' salaries, pensions and tenure of the National education association, by W. Carson Ryan, Jr. and Roberta King. 46 p. (Contains a comparative chart, extracts from letters of secretaries of retirement funds, and texts of laws.)

75 —— Teachers' pensions. (From Current Topics, Commissioner of Education's report, 1905 and 1906.) Washington, Govt. print. off., 1910. 21 p. (60th Cong., 2d sess. Senate. Doc. no. 585. Serial no. 5407.)

76 —— *Bureau of labor.* Pension funds for municipal employees and railroad pension systems in the United States. Washington, Govt. print. off., 1910. 89 p. (61st Cong., 2d sess. Senate Doc. 427. Serial 5658.) [Contains a comparative chart of teachers' pensions in the United States.]

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